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ORIGINAL ARTICLE

DRUG UPDATE

CASE REPORT

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ORIGINAL ARTICLE

Elongated Styloid Process: A Diagnostic Challenge and Surgical Tremulousness

Prem Singh Jat*, Sunita Agarwal, Ritu Sehra***, Kailash Singh Jat*, Pawan Singhal**, Vijay Kumar Sharma******

ABSTRACT

Aims: Elongated styloid process (ESP) is distressing to patients and often difficult to diagnose due to its wide variability of symptoms. It is easily confused with dental pain or temporomandibular joint disorder, leading to missed diagnosis and unnecessary procedures. An elongated styloid process should be considered as a possible etiology of dull pain along the jaw and temple line. Our aim is to present our experience with case series of 30 cases of ESP treated by intraoral tonsillo-styloidectomy.

Material and methods: This is a hospital-based observational study of 30 cases of ESP diagnosed clinically and radiologically. They all underwent intraoral tonsillo-styloidectomy. We followed them up to 1 year. All peri-operative/post-operative complications and symptomatic improvements were recorded. VAS (visual analogue score) scoring system was used for post-operative pain assessment.

Results: Age range of cases was 20-60 years with female preponderance. 18 patients had bilateral and 12 had unilateral symptoms. Most common symptom was vague neck pain. Length of styloid process among these cases ranged between 30-50 mm. There was no intra-operative and post-operative complication. Out of 30, 2 patients presented with recurrence of pain at 12 months follow-up.

Conclusion: Any case of unexplained and persistent neck pain should be evaluated thoroughly. Clinical and radiological correlation for exact diagnosis of this entity is necessary and surgical excision is the best modality for its treatment.

Keywords: Styloid process; elongated; difficult diagnosis; styloidectomy

Availability of data and material: Patients who attended our OPD were evaluated and then after applying inclusion and exclusion criterias they were included in the study.

Institutional Ethical Approval: All procedures performed in present study involving human participants were in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards and got institutional Ethical Approval.

Informed Consent Statement: Informed and written consent was obtained from all individual participants included in the study.

INTRODUCTION

Elongated styloid process also known as Eagle's syndrome was first noted in 1652 by Pietro Marchetti but described by W. W. Eagle in 1949. It occurs due to elongation of styloid process or ossification of stylohyoid ligament impinging on local neurovascular bundle[1]. It is a rare clinical entity with difficult diagnosis as a result of its vague symptomatology. It leads to variable symptoms like: throat pain, facial pain, ear pain, globus sensation, dental pain, odynophagia, pain during head movements and headache. Throat pain is the commonest symptom[2]. Its incidence is 4% but only 4 –7 % of this group is symptomatic[3].

Normal length of the styloid process ranges between 20–30 mm. It is supposed to be elongated when its length is more than 30 mm[4,5]. There are various theories explaining its etiology but it is still uncertain. Some theories state that it is genetically associated whereas some suggest that it may be a result of trauma. In one of

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the literature it was associated with early onset of menopause[6].

The ambiguity of its presentation and infrequent exposure to such cases at clinics make it a diagnostically challenging entity. These patients may be handled by an otorhinolaryngologist, dentist, neurologist or by a pain expert at pain clinics. Despite of being treated by various medicines patients remain unsatisfied with persistence of symptoms.

There are variety of pathologies which are enlisted as differential diagnosis of Eagle's syndrome. Thus, it can be a diagnosis of exclusion. The diagnosis of this condition requires awareness and vigilance. It is confirmed through history, palpation of the tonsillar fossa, local anesthesia infiltration, and radiography. If pain is reproduced by palpation and either referred to the ear, face, or head, the diagnosis of an elongated styloid process is very likely. A styloid process of normal length is usually not palpable. The diagnosis should be confirmed by imaging. Some clinicians still go through orthopantomogram but in this era of advanced technologies, three-dimensional computed tomography (3D-CT) is the best imaging modality as it gives accurate measurement of styloid process[7].

There are both surgical and conservative methods for treating Eagle's syndrome, but in most cases, surgery is performed to remove the elongated styloid process. Surgical excision can be accomplished via the external or intraoral approach. The objective of this study is to present our experience with surgical excision of elongated styloid process in 30 cases via intraoral approach.

MATERIALS AND METHODS

This is a hospital based, observational study conducted in the department of otorhinolaryngology of our institute from 2010 to 2016. 30 patients with symptomatic elongated styloid processes who underwent surgical treatment were enrolled in the study. Both male and female patients with age range 20-60 years were included. This study was approved by institutional ethical Committee. A detailed history and physical examination of the head and neck was done. The most common complaints of the patients were pain in the throat, otalgia and foreign body sensation in the throat. Physical examination included careful palpation of the tonsillar fossa, lateral pharyngeal wall, and the area between mastoid process and mandibular angle in an attempt to precipitate the patient's discomfort. All of the patients were screened thoroughly, and pain due to other factors, such as temporomandibular, dental, orthopedic and neurologic causes, were ruled out. Diagnosis was confirmed radiologically either by orthopantomogram (OPG) or 3D-CT scan and patients having a styloid process longer than 30 mm were planned for surgical excision by transoral approach [Figure 1]. Hematological and biochemical investigations were carried out to assess medical and surgical fitness.

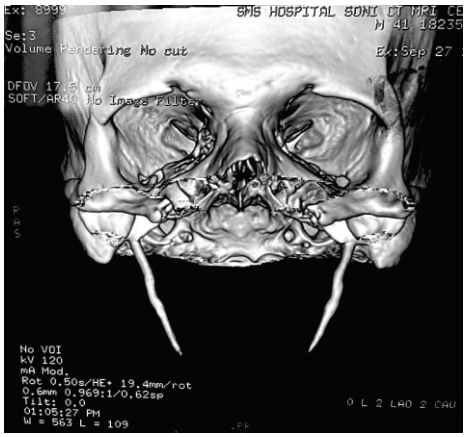

Fig. 1: 3D CT scan showing bilateral elongated styloid process

After the examination and appropriate investigations, informed and written consent was taken for participation in the trial after which they underwent pre-anesthetic check-up. The operation was performed under general anesthesia in tonsillar position (Rose's position). Unilateral or bilateral tonsillectomy was performed according to the case, the tonsillar bed was palpated and the tip of the styloid process was identified. Periosteum was incised by 11 number surgical blade and elevated along the styloid process in the tonsillar fossa. Denuded styloid process was excised with a bone nibbler rongeur. Hemostasis was achieved. An Alternate approch was also used in a few patients going through anterior tonsillar piller and saving tonsil (Figure 2). Oral feeding was started on the next day. They all were discharged after 24 hours of the surgery. All patients were managed with oral antibiotic and analgesic therapy for 1 week. First follow-up examination at 7 days showed uneventful recovery without any complications. Patients were followed up for at least 12 months.

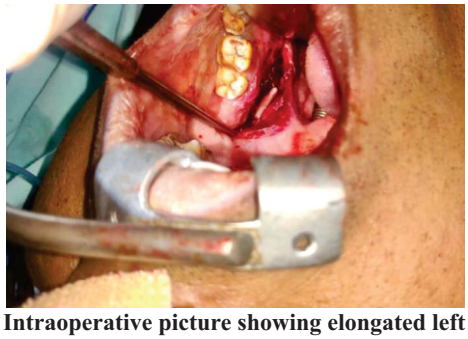

Fig. 2: Intraoperative picture showing elongated left styloid process approached through anterior tonsillar pillar

The data were entered into Statistical Package for Social Sciences version 15.0 (SPSS Inc., Chicago, IL, USA) and analyzed. Absolute numbers and simple percentages were used to describe categorical variables. Quantitative variables were described using measures of central tendency (mean, median) and measures of dispersion (range, standard deviation) as appropriate.

RESULTS

Total 30 patients with clinically and radiologically confirmed elongated styloid process were included in the study. There were 9 males and 21 females with age ranging from 20 to 60 years were included. 12(40%) patients had bilateral symptoms and underwent bilateral styloid process resection and rest 18(60%) patients had unilateral symptoms; hence a unilateral styloid process resection was performed. In total, 42 styloid processes from 30 patients were resected [Table 1]. The length of styloid processes ranged from 30 to 50 mm (mean 40 mm). Presenting symptoms of patients are mentioned in table 2.

All patients underwent tonsillo-styloidectomy either unilateral or bilateral as per decision taken by the operating surgeon pre-operatively after proper evaluation. No immediate or delayed post-operative complications were encountered in the patients. Pain grading was done using VAS score both pre- and post-operatively at follow-up after 1 week and upto 12 months . This scoring was cumulatively used for those 24 patients whose presenting symptom was pain irrespective of the site. At the first follow-up after 7 days there were no patients who had complaint of pain but at 12 months follow-up 1patient experienced recurrence of throat pain and1 had recurrence of vague neck pain.

DISCUSSION

The styloid process is a thin bony projection that emerges from the skull base. It has several attachments including the stylomastoid foramen, the jugular foramen, the mastoid process, and importantly, the carotid canal[8].

An elongated styloid process may be a source of craniofacial and cervical pain. This condition is characterized by a dull & nagging pharyngeal pain. Sometimes the pain is localized, or radiates to the jaw and ear and may mimic dental pain. The mean age of presentation is usually 3rd and 4th decades, with female predilection[9].

Exact cause of symptomatic ESP is still unclear. Various theories are given at different time intervals including (1) traumatic fracture of the styloid process exerting pressure on the surrounding structures(2) compression of adjacent nerves; the glossopharyngeal, lower branch of the trigeminal, or chorda tympani (3) insertion tendonitis of the stylohyoid muscle(4) irritation of the pharyngeal mucosa by direct compression on cranial nerves V, VII, IX, and Xand (5) encroachment of the carotid vessels, causing irritation of the sympathetic nerves present in the vascular sheath[10].

The Clinical examination of tonsillar region is must whenever a patient comes with unexplained craniofacial or cervical pain. A clinician should pay attention to patient's complaints even in the absence of any exact cause and try to reach on its cause. It is wise to keep in mind all the causes of the origin of oropharyngeal pain at the time of evaluation.

W. W. Eagle conducted a study and he mentioned that the normal length of the styloid process was 2.5 cm to 3 cm. He noted that medial deviation of the styloid process can be a cause of facial pain. Eagle reported two forms of the syndrome, carotid artery and classic type. Cause of pain in the classic type was compression on the cranial nerves V, VII, IX, and X due to scar formation underneath the tonsillar fossa after tonsillectomy. The carotid artery type was characterized by headache and nerve problem because of the irritation of the sympathetic nerve plexus[3].

To make a diagnosis, complete history and a thorough clinical examination of the head and neck is of utmost importance. The symptoms can be reproduced by palpation over the stylohyoid complex cautiously. The tip of the styloid process can be palpated at the level of the tonsillar fossa as a bony spicule, which is hard and, when palpated, can cause local tenderness and associated symptoms[11].

Imaging is the best tool to confirm the diagnosis. Various imaging modalities are there like orthopantomogram, Towne's projection, lateral oblique view of the mandible, anteroposterior skull radiographs and 3D-CT scan. In current scenario, 3D-CT imaging of the skull base is the imaging modality of choice as it provides the most accurate evidence of the osseous-ligamentous anomalies related to the syndrome as well as the accurate measurement[12].

The Treatment is based on the severity of symptoms. Non-surgical interventions can be helpful in mild symptoms which includes reassurance, oral analgesics and local corticosteroid injections, but when symptoms are severe and recurrent, surgical excision via transcervical or transoral approach is the best treatment modality. Both approaches have their own pros and cons. Transcervical approach provides good visualization and also has less chance of deep neck space infection. But external scar mark, comparatively longer duration of

surgery, and risk of injury to the facial nerve are some of its disadvantages. On the other hand, intraoral approach is comparatively safe, simple, and less time-consuming procedure in which external scar mark can be avoided. But in this approach possibility of deep neck spaces infection, risk of injury to major vessels, and poor visualization of surgical field are some associated disadvantages[10,13].

One more intraoral technique is mentioned in the literature in which tonsillectomy is not required. In that technique incision is given just anterior to ramus of mandible and plane of dissection remains lateral to superior constrictor muscle. They found it to be simpler than tonsillo-styloidectomy[14].

Table 1: Laterality of elongated styloid process among study population

Laterality	No. of patients (%)	No. of styloid processes resected
Unilateral	18 (60)	18
Bilateral	12 (40)	24
Total	30 (100)	42

Table 2: Symptoms of patients

Symptoms	No. of patients (N=30)	Percentage (%)
Vague neck pain	12	40
Throat pain	8	26.67
Foreign body sensation in throat	6	20
Pain on swallowing	2	6.67
Ear pain	1	3.33
Temporomandibular joint pain	1	3.33

KEY MESSAGE

Eagle syndrome is a clinical entity caused by elongated styloid process along with a wide variety of symptoms. It should be considered a possible etiology of dull cranio-facial or cervical pain. Due to presence of various causative factors of such type of pain it is important to attend to such patients carefully and with patience as they are ignored by most of the clinicians. Keeping this diagnosis in mind one should proceed accordingly. Surgery is the best option for ESP. In our study, successful outcomes were there using an intraoral approach without any complications.

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ORIGINAL ARTICLE

Patterns of Self Harm Behavior in Opioid Dependence Patients- A Cross-sectional Study

Surender Kumar*, Sanjay Gehlot, Rahul Gupta***, Rajendra Kumar Acharya***

ABSTRACT

Background: Substance use disorder is one of the most common risk factors associated with a suicide attempt and self-injurious behavior. Opioid use disorders are associated with impairment of judgment, reducing inhibition leading to self-harm behaviors. A proper study is required for patterns of self-harm behaviors in these patients.

Aim: To determine the patterns of self harm behavior in opioid dependence patients.

Materials and Methods: The present study is a hospital-based cross-sectional observational study conducted among 101 patients included as per inclusion and exclusion criteria and undergone psychiatric assessment as per diagnostic criteria.

Results: i. The study found deliberate self-harm behavior in almost half of the patients(51%) with opioid dependence. Cutting the wrist(79%) was found to be the most common pattern followed by burning oneself(8%), hitting self against the wall(8%).

ii. Younger age, being unmarried, unemployed, a shorter duration of substance use, greater severity of substance use disorder, history of injecting drug use, and comorbid substance use disorder found to be predictors of self harm behavior in these patients.

Conclusion: The study found a high prevalence of self harm behavior in opioid-dependent patients with cutting the wrist as the commonest pattern. An interplay of the psychosocial, pattern of drug use and psychiatric comorbidities determine the occurrence of this behavior.

Keywords: Patterns of self harm behavior, Opioid-Dependence patients, Psychiatric comorbidities.

INTRODUCTION

Self-harm is a broad term that includes intentional self-injury that directly results in tissue damage (such as cutting, scratching, burning), or risky behaviors which can endanger life[1-4]. Substance use disorders are associated with an increased risk factor for suicide and self-harm in patients visiting the psychiatric care and emergency department of hospitals[5]. Patients with substance use especially opioid use disorder can attempt self-harm for an expression of frustration and manipulation[6]. Substance use disorders patients have a high prevalence of nonsuicidal self-harm behavior of up to 50% as compared to suicidal behavior[7].

Suicide is a serious concern on both a national and global scale. World Health Organization estimates 8 lakh suicide deaths every year, almost one death for every 40 deaths[8]. Substance use disorder is one of the most common risk factors associated with a suicide attempt[9]. Opioid intoxication and other substance intoxications are associated with impairment of judgment, reducing inhibition leading to self-harm behaviors. Alcohol use disorders are mostly investigated with lack of evidence for other substances on self-harm behaviors[10-12].

Self -injurious behaviors have been seen among drug users (estimates range from 10% to 46%) but few studies about opioid users. Darke & Ross et al found that opioid dependence patients are more prone to suicidal attempts[13]. A number of other risk factors for self-mutilation have been identified, including demographic characteristics, psychological disorders, and childhood trauma[14]. A majority of studies concluded that it begins during the middle to late adolescence[15], being single individual as a risk factor. Borderline personality disorder (BPD), depression, anxiety disorders and posttraumatic stress disorder (PTSD) all tend to increase the self-mutilation behavior in patients with opioid dependence[16-17].

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Aim

1. To determine the patterns of self harm behavior in opioid dependence patients.

Objectives

1. To estimate the proportion of various patterns of self harm behavior in opioid dependence patients.
2. To determine the factors associated with self harm behavior in opioid dependence patients.

METHODOLOGY

Case definition: Self-harm is a broad term that includes intentional self-injury that directly results in tissue damage (such as cutting, scratching, burning), or risky behaviors which can endanger life.

Opioid dependence syndrome as per International classification criteria of Diseases 10, criteria; and severity as per diagnostic statistics manual V

Setting and participants

After taking permission from the Institutional Ethical Committee, the present cross-sectional observational study was conducted at Psychiatric Outpatient and Inpatient Department of MDM Hospital Jodhpur. The facility has outpatient and inpatient services and provides medical as well as psychosocial interventions as treatment approaches. In the present study, male patients above 18 years of age were screened for inclusion into the study. Patients were included if they had a history of any substance use disorder as per ICD 10 criteria and were willing to give informed consent. The inclusion strategy was included with simplification to get the sample of a representative population of patients visiting the outpatient clinic. The study was conducted in 1 month

Study design: A cross-sectional observational study.

Sampling strategy: Purposive sampling involving all the patients meeting inclusion criteria.

Inclusion criteria:

In the present study, male patients above 18 years of age included having a history of Opioid use disorder and fulfilling the criteria of Opioid Dependence syndrome as per International classification criteria of Diseases 10, criteria; who are willing to give informed consent.

Exclusion criteria: Male patients above 18 years of age having a history of Opioid use disorder and fulfilling the criteria of Opioid Dependence syndrome with the concomitant organic brain disease and chronic medical illness are excluded from this study.

Patients visiting the outpatient and inpatient department services who are meeting the inclusion criteria were recruited into the study after obtaining written informed consent. Demographic details (age, gender, marital status, education, occupation, monthly income, type of family, number of family members, and area of residence), clinical details (primary substance of use, duration of substance use, history of injecting drug use, history of chronic medical/psychiatric illness, and family history of substance use), and legal complications being recorded. The ICD 10 and DSM V criteria were applied to ascertain the dependence and severity of dependence respectively. Specific details about the nature of the self-harm act would be assessed using the Deliberate Self-Harm Inventory[18]. If a patient is found to have committed deliberate self-harm under any of the methods listed, that is further investigated in terms of the age at which it was committed for the first time and the last time, as well as the number of times it has been committed and whether it has led to the patient being hospitalized.

Statistical analyses performed using epi info 7 software. Descriptive analyses were performed to describe relevant variables such as means, standard deviations, frequencies, or percentages with tests of significance like t-test and Chi-square test, respectively.

Tools:

1. Deliberate Self-Harm Inventory

This is a 17-item inventory assessing the history of ever committing self-harm fewer than 16 different methods (including cutting oneself and burning oneself). Exploration about the age at which it was committed for the first time and the last time, as well as the number of times it has been committed and whether it has led to the patient being hospitalized. It also assesses self-harm independent of suicidal ideation.

2. Socio-demographic profile

Demographic details (age, gender, marital status, education, occupation, monthly income, type of family, number of family members, and area of residence), clinical details (primary substance of use, duration of substance use, history of injecting drug use, history of

chronic medical/psychiatric illness, and family history of substance use), and legal complications will be recorded.

3. ICD 10 and DSM V criteria:

A definite diagnosis of dependence should usually be made only if three or more of the diagnostic criteria mentioned in ICD 10 for opioid dependence have been experienced or exhibited concurrently at some time during the previous 12 months. DSM V criteria to assess the severity of opioid dependence syndrome shall be used.

4. NEO Personality Inventory (NEO PI-3) is a personality inventory that examines a person's Big Five personality traits (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism).

5. Brief psychiatric Rating Scale (BPRS): It assesses 18 behavioral items rated on a seven-point item-specific Liker scale from 0 to 6, with the total score ranging from 0 to 108 (in some scoring systems, the lowest level for each item is 1, so the range is 18 to 126). Because the ratings include observations, as well as patient reports of symptoms, the BPRS can be used to rate patients with very severe behavioral impairment.

RESULTS

Table 1. Sociodemographic profile

Variable	Mean/frequency (n =101)
Age	37.3 ± 13.1 yr
Age group Late adolescent	3(2.97%)
Early adulthood	45(44.5%)
Middle adulthood	40(39.6%)
Elderly	13(12.8%)
Education	
Graduate	4(3.96%)
Below graduate	43(40%)
Illiterate	56(55.45%)
Marital status	
Unmarried	33(32%)
Married	68(68%)
Occupation	
Unemployed	24(24%)
Employed	77(76%)
Socio economic status	
Lower	85(84%)
Middle	16(16%)
Duration of Opioid use	12.52 ± 7.5 years
History of injecting Opioid use	47(46.5%)
High–Risk behavior	28(27.71%)
Legal complications	NA
Comorbid substance use Disorder	48(47.76%)

Mean of age:

Male patients with 37.3± 13.17 years (18 to 76 years of age)

Mainly younger group predominated in this study with early adulthood and middle adulthood(84%). Lower socioeconomic status in 84% and married status in 67% is observed in the patients enrolled for the study.

2. Self-harm behavior

About 51.49% of male patients with opioid dependence patients reported self-harm behavior.

Table 2. Self Harm behavior and socio-demographic variables

	Self–harm behavior Present	Self–harm behavior Absent	P–value/ statistics
Age	36.9 ± 12.2 yrs	38.7 ± 14.5	0.34
Age group			
Late adolescent	1	2	
Early adulthood	25	20	0.6396
Middle adulthood	21	19	
Elderly	5	8	
Socio–economic status lower	44	41	0.34
Middle	8	8	
Education			0.05
Graduate	2	2	
Below graduate	23	20	
Illiterate	29	27	
Marital status			0.212
Unmarried	20	13	
Married	32	36	
Occupation			
Unemployed	13	11	
Employed	39	48	0.031

Table 3. Patterns of Self Harm behavior(n=52)

1. Cutting wrist	41(79%)
2. Burning oneself	4(8%)
3. Hitting against wall	3(6%)
4. Others	4(8%)
Severity of attempts	33(63.06%)
Frequency of attempts	Mean =6.2± 2.6

3. Psychiatric comorbidities with self-harm behavior

About 50% of patients with self-harm behavior were found to have psychiatric comorbidities. Major Depressive Disorder (29%), Mixed Anxiety Depressive Disorder (13%), Bipolar Affective Disorder (8%) being the comorbidities reported.

4. PERSONALITY TRAITS

A. NEUROTICISM

Self Harm Behavior is associated with a higher neuroticism score (mean 32.40) as compared to its absence in Opioid Dependence patients. Statistically significant (p-value <0.05)

B. conscientiousness

Self harm behavior is associated with a higher conscientiousness score (mean 19.11) as compared to its absence in opioid dependence patients. Statistically insignificant.

C. Agreeableness

Self harm behavior is associated with a higher agreeableness score (mean 22.340) as compared to its absence in opioid dependence patients. Statistically significant(p -value <0.05)

D. EXTRAVERSION

Self harm behavior is associated with a higher extraversion score (mean 29.780) as compared to its absence in opioid dependence patients. Statistically significant(p -value <0.05)

E. OPENESS

Self harm behavior is associated with a higher openness score (mean 21.780) as compared to its absence in opioid dependence patients. Statistically insignificant (p-value >0.05)

5. Age of onset of Opioid Use and Self Harm behavior

Self harm behavior is associated with early onset of substance abuse (mean age 17.6 years) as compared to without self-harm behavior (mean age 23.5 years). Statistically significant (p-value <0.05)

6. Amount consumed in gm per day

Assaultive behavior is associated with a high amount of opioid consumption (mean 6.5 gm/day)

7. Duration

Self harm behavior is associated with less duration in years (mean 11.7 yr) as compared to without it. Statistically insignificant (p-value >0.05)

8. Severity of Opioid Dependence Syndrome

Moderate severity in 85% of patients is present in self harm behavior category as compared to mild severity (57%) being predominated in another category.

Table 4. Clinical variables association with self harm behavior

	Self Harm behavior Present	Self Harm behavior Absent	P-value statistics
Age of onset	17.6±4.3 yrs	23.5±7.8 yrs	0.0001
Psychiatric comorbidities			0.0001
Present	26	21	
Absent	26	28	
Duration of Opioid use	11.7 years	13.3 years	0.0167
Injectable opioid use			0.0000031
Present	36	11	
Absent	11	38	
High-Risk behavior			0.003
present	21	7	
Absent	31	42	
Amount consumed in grams per day	6.8±2.11 gm	5.12±3.4	0.01
The Severity of Opioid Dependence syndrome			0.0001
Mild	8	28	
Moderate	44	21	
Personality traits			
Neuroticism Score	32.4±4.10	26.57±6.34	0.0026
Extraversion	29.78±4.7	26.9±6.22	0.016
Openness	21.6±6.10	20.4±6.3	0.255
Agreeableness	22.3±5.7	20.06±4.7	0.027
Conscientiousness	19.1±4.1	18.7±5.5	0.55
Comorbid Substance Use Disorder	11	9	
Alcohol Dependence syndrome	19	9	0.045
Poly Drugs Dependence			

DISCUSSION

The present study was conducted to determine the patterns and predictors of a history of self-harm in patients with Opioid dependence attending the outpatient clinic in a tertiary psychiatric and drug de-addiction treatment center. It found deliberate self-harm behavior in almost half of the patients (51%) with opioid dependence. Several significant socio-demographic and clinical associations were evaluated under this study. As per the review of literature, younger age, unmarried, unemployed, shorter duration drug use (less than 10 years), injecting the drug, high-risk sexual behavior, legal complications are associated with self-harm behaviors in substance use disorder and opioid dependence patients[18,19]. This study also found younger age, being unmarried, unemployed, a shorter duration of substance use, greater severity of substance use disorder, history of injecting drug use, and comorbid substance use disorder to be predictors of self harm behavior in these patients. As per Indian studies, the prevalence figures for actual self-harm is high in substance use disorder patients due to suicidal ideation (32.7%) with a major part of opioid dependence (70%) patients. High rates of self-harm behavior have been observed in the Indian population[19-21].

The mean age of the patients was found to be in the thirties. A major portion of patients was being married (76%) and employed (68%), these demographic features are correlated to other studies from India[24,25]. Comorbid substance use disorder found in almost half of the patients (47.76%) with poly drugs dependence prominent followed by Alcohol dependence syndrome.

A major pattern of self-harm behavior was found to be cutting the wrist (79%) in the form of wrist slashing over the forearm region by a sharp object. Burning oneself, hitting against the wall were other patterns observed under this study. Major neurological and neuropsychiatric complications can develop due to deliberate self-harm behaviors even though these acts are done with no suicidal intention. The most common mean of self-harm is found to be cutting oneself followed by hitting of one's head against the head (16%), burning oneself by cigarette (9.7%), biting and boxing oneself (6%), and other attempts.

In this study, patients with self-harm behavior were younger and had a shorter duration of opioid use. This finding was also demonstrated in earlier studies[24,25] due to various factors. Young population predominant in suicidal attempts in India, patients with self-harm reported earlier for management can explain the above finding.

A major group of patients with self-harm behavior were found to be unmarried as compared to those without these behaviors. Unemployment was also found to be a vulnerable factor for these behavioral patterns in opioid dependence patients. Through various studies, poor psychosocial support and unemployment have been considered risk factors for self-harm in substance use disorders.

Among clinical variables, Indian studies have highlighted injecting drug use as a significant risk factor for suicidal attempts[26,27]. In this study also injecting opioids associated with a high proportion of self-harm behavior. Injecting drug use is also associated with the severity of opioid dependence syndrome.

Patients with substance use disorders suffer from personality disorders and axis I psychiatric disorders. They have greater life stress, no psychosocial support leading to increased suicidal ideation. This finding is similar to an Indian study which found a high degree of correlation between self-harm and suicide with increased or risky drug abuse, unemployment, unmarried with poor psychosocial support[26]. In this study also psychiatric comorbid disorders were found to be a risk factor of self-harm as almost 50% of patients had psychiatric disorders apart from opioid dependence. Major depressive disorder and mixed snxiety fisorders predominated in these disorders. Self harm attempts might be an effort to counter the emotional distress occurring in these major psychiatric conditions.

In personality traits, neuroticism, extra version, and agreeableness scores were found to be higher in self-harm patients as compared to their counterparts in statistical significant level (p-value<0.5). It highlights that personality traits can also determine the risk of self-harm behavior in patients with opioid dependence patients.

The major implication from this study is to identify vulnerable groups among patients with opioid dependence (i.e., young unmarried unemployed men) for greater attention to prevent self-harm through timely interventions. Awareness of self-harm behavior should be established in clinicians. The Policy framework should be

designed to maximize support and interventions in managing self-harm behavior through these findings in opioid dependence patients.

The strengths of this study include adequate sample size, assessment of the clinical with personality traits, and socio-demographic variables. However, as the there is a cross-sectional design of the study causality association could not be formed which is a limitation of the study.

CONCLUSION

The prevalence of self-harm attempts with different patterns is higher among opioid dependence and other substance use disorders patients is much higher as compared to the general population. It is mentioned in various kinds of literature. However, longitudinal studies are required to frame causality association. A better understanding of clinical and non- clinical risk factors will help us to manage and prevent self-harm attempts in the vulnerable group of opioid dependence and other substance-dependent patients.

LIMITATION

Cross-sectional nature of the study with less number of patients recruited to conduct the study. A further followup study is required in the future for detailed elaboration.

Future directions:

A properly targeted approach is needed for these vulnerable populations and identification of further risk factors is essential for the targeted approach.

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ORIGINAL ARTICLE

Psychological Impact of COVID-19 on Severely Mentally ill Patients of a Tertiary Care Centre in Western Rajasthan-A Cross- Sectional Study

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ABSTRACT

Background: Pre-existing psychiatric illness is a risk factor for the development of post-traumatic stress disorder (PTSD), depression, anxiety, and illness exacerbation after a disaster. Amid the pandemic of COVID 19, patients diagnosed with Severe Mental Illness were found to have stress under confinement measures, loneliness and despair, and treatment noncompliance responsible for relapse of psychiatric illness.

Aim: To find the psychological impact of COVID-19 on patients with severe mental illness.

Material and methods: The present study is a hospital-based cross-sectional observational study conducted among 150 patients with severe mental illness included as per inclusion and exclusion criteria and under went psychiatric assessment as per diagnostic criteria.

Results: Treatment compliance and increased Aggressive acts/violence towards caregivers: About 34.3% of patients developed aggressive behavior during the lock-down period leading to the deterioration of their mental and physical functioning. A major reason for this altered behavior was poor compliance as 40 out of 52 patients (79%) missed appointments. Lack of transportation in 69.6% was the main reason for missing appointments while non-availability of medications in 17.7% and absence of mental health professionals 12.6% were other factors for poor compliance and missing appointments during lock-down period. About 90% of patients with inadequate social support experienced Verbal and physical aggression from others in the family and community. Suicidal expressions(7.3%), excessive substance use (9.33%) also found under this study.

Conclusion: Patients with a severe psychiatric illness suffered due to the lack of health care facilities, financial burden, and inadequate social support leading to exacerbations of their illness. A properly targeted approach is needed for these vulnerable populations during the pandemic.

Keywords: The Psychological impact, severe mental illness, treatment non-compliance, aggression.

INTRODUCTION

Being a public health crisis COVID-19 has led to significant disruption. The first case of COVID-19 in India was reported on 30th January 2020. As part of public health interventions, the Government of India implemented a nationwide lockdown from March 25, 2020. The risk for developing mental health problems has been increased by psychological stress related to a pandemic and unprecedented lockdown[1]. Implementation by Government of India of multiple measures like mental health helpline, revised telemedicine guidelines, empowered digital communication platform, all are predominantly focused on the emotional disturbance in infected persons, front line health workers, and the general public with no concern about mentally ill patients. Previous studies have shown that pre-existing psychiatric illness is a risk factor for the development of post-traumatic stress disorder (PTSD), depression, anxiety, and illness exacerbation after a disaster[2]. The current study is focused on the impact of the pandemic on severe mental illness (SMI). The National Institute of Mental Health **defines severe mental illness (SMI) as, "a mental, behavioral, or emotional disorder resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities"**. Schizophrenia, Schizoaffective disorder,

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bipolar affective disorder, major depressive disorder have been adopted in this study. (NIMH, 2017)[3]. During the lockdown, patients diagnosed with SMI had decreased access to health care in psychiatric hospitals[4]. Due to high susceptibility to stress under confinement measures, exacerbation of loneliness and despair, leading to increased rumination and overall reduced ability to cope with stress, low self-esteem, and treatment noncompliance all factors can lead to relapse of psychiatric illness[5].

Thus, the aim of the study was to find the psychological impact of COVID-19 on patients with severe mental illness.

The objectives were to determine the impact of lock-down on psychiatric symptoms in patients with known psychiatric diagnosis as per inclusion criteria & to determine treatment compliance based on their primary caregiver's report and awareness of patients.

METHODOLOGY

After taking permission from the Institutional Ethical Committee, the study was carried out and patients were recruited from the outpatient department of psychiatry, MDM Hospital through simple randomized sampling. The Sample size was calculated to be 150.

Study design: A cross-sectional observational study.

Informed consent was taken from the patient or caregiver if the patient was not able to give proper written informed consent.

A questionnaire with 23 items administered eliciting issues like awareness about symptoms of COVID-19, perceived social support and perceived verbal and physical aggression (from the patient), the current status of illness, the impact of COVID-19 on their mental status, medication compliance, psychiatric consultation. Duration varied from 20 to 30 minutes with privacy maintained settings.

Duration of the study: 30 days.

Inclusion criteria

1) Patient diagnosed as Severe Mental Illness a.Schizophrenia b.schizoaffective c. Bipolar Affective Disorder d. Major Depressive Disorder, who sought treatment at this center

2) Age above 18 yrs with a minimum of the one-year duration of illness.

3) clinically stable for the previous 3 months (clinical stability was defined as "no major changes in medication and no hospitalization in the 3 months preceding the study" based on clinical records).

Exclusion criteria

Patients diagnosed with severe mental illness with concomitant organic brain syndrome and chronic medical illness.

i. Materials

1. Sociodemographic proforma

2. 23 item questionnaire This questionnaire has been prepared by Partheeban Muruganandama Srinivasan Neelamegama et al and applied to the study done on COVID-19 and Severe Mental Illness: Impact on patients and its relation with their awareness about COVID-19. It was designed after focused group discussion comprising of authors (mental health professionals), specialists from microbiology and community medicine and based on themes identified in the literature related to disaster and mental health. Content validation was done by two independent psychiatrists. The questionnaire elicited issues like awareness about symptoms of COVID-19, need for quarantine, precautions and prevention methods, mode of spread, perceived social support and perceived verbal and physical aggression (from the patient), the current status of illness, the impact of COVID-19 on their mental status, medication compliance, psychiatric consultation, biological functions (from caregivers). Initial pilot-study on 10 subjects and their primary caregivers was conducted to know the feasibility and comprehensibility of the items of the questionnaire.

ii. Procedure

Information obtained from the patients was verified with their caregivers. Face -to face.

Interviews were conducted with proforma of a questionnaire and psychiatric diagnosis verified according to criteria mentioned in ICD 10. After fulfilling the proformas analysis done to find the frequency of certain variables which were impacted by COVIND 19 in the form of psychological distress.

iii. Statistical analysis

By using epi info 7 software various variables frequency computed which are qualitative. The role of

certain variables included which were reported age, gender, education, socioeconomic status, psychiatric illness group, poor compliance status, relapse status, level of social support, and experiencing verbal and physical aggression from others and participants level of awareness. Chi-square p value evaluated for perceived social support, financial burden during a lockdown, and socioeconomic status.

The sample size was computed from the earlier study "COVID-19 and Severe Mental Illness: Impact on patients and its relation with their awareness about COVID-19" by Partheeban Muruganandama et al[6]. with alpha error taken as 0.05 and the power was 99%. So, the sample size computed to be 150.

RESULTS

Table 1. Sociodemographic and clinical variables

N(150)	Male (114)	Female(36)
Age Group	18-76 yrs	
Education	Illiterate 66(44%) Below graduation 44(29.2%)	Graduate 40(26.67%)
Socioeconomic status	Lower 122(81.33%)	Middle 28(16.67%)
Diagnosis	BPAD 19(12.67%) Depression 70(46.67%)	Schizophrenia 54(36%) Schizoaffective 7(4.67%)
Awareness about Covid 19	Present Lower Socioeconomic status 118(96.72%) Absent 4(3.28%)	Present Middle socioeconomic status(100%)
Fear of Covid 19	Often 55(36.6%), Sometimes 12(8%)	Rarely 24(16%) Never 59(39.33%)
Treatment compliance Perceived Social Support	Missed 80(53.33%) Adequate(65.33%),Inadequate(34.67%)	

Table 2. Psychological symptoms

1.	Re–emergence of Psychiatric symptoms	38(25.33%)	BPAD 5(26.32%) Depression 27(38.5%) Schizophrenia5(19.26%) Schizoaffective 1(14%)
2.	Aggressive Acts/violence towards caregivers	52(34.3%)	BPAD(10),Depression(34),schizophrenia (7),Schizoaffective(1)
3.	Personal care	52.3% (intact)	
4.	Sleep disturbances	64.6%(97)	Unmanageable(16)
5.	Suicidal expression	7.39%(11)	
6.	Excessive substance use and illegal drugs	9.33%(14)	
7.	Emergence of psychiatric symptoms with substance use	42.24%(6)	

The Source of information for patients: Family and friends

Treatment compliance: Lack of transportation in 69.6% was the main reason for missing appointments while non-availability of medications in 17.7% and absence of mental health professionals 12.6% were other factors for poor compliance and missing appointments during lock-down period.

Perceived Social support: About 90% of patients with inadequate social support experienced Verbal and physical aggression from others in the family and community.

Increased Aggressive acts/violence towards caregivers: About 34.3% of patients developed aggressive behavior during the lockdown period leading to the deterioration of their mental and physical functioning. A major reason for this altered behavior was poor compliance:40 out of 52 patients(79%) missed appointments.

Financial burden: 81.33% (121) patients developed burden during the lock-down period with 86%(106) belonging to lower socio-economic status with inadequate social support. P-value of chi-square(<0.05).

DISCUSSION

This study demonstrates that awareness about covid 19 infection mode and preventive measures have been 96.7% which is quite high. However, an online study conducted in South India concluded that nearly three fourth of patients with SMI had no adequate knowledge about symptoms and precautionary measures of COVID-19[7]. About 45% of patients with severe mental illness reported fear and anxiety about COVID 19 infection which is less than the general population (varying between 25 to 72%)[8].

For the general population, the study conducted by Ahmed and Aibao et fitted on "Epidemic of COVID-19 in China and associated Psychological Problems" published in the Asian journal of Psychiatry 2020 highlighted the high rates of anxiety, depression amid the pandemic in the general public with a younger population at risk[9].

Lower Socio-economic status was found to be associated with an increased burden (86%) and suicidal expression (9 out of 11 patients). In this study, the major source of information for COVID 19 was family and friends. This is in contrast with other studies among the general population which found a major source to be social media[10].

About 25% had a relapse of psychiatric symptoms during the pandemic lock-down period. The reasons explained in previous various studies were high vulnerability to stress, confinement to closed spaces[11,12], non-availability of mental health care[13-15], severity of pre existing psychopathology[16] and financial burden[17,18]. The study conducted by Bojdani, E., Rajagopalan concluded COVID-19 is affecting psychiatry in ways that are profound and constantly evolving. Existing psychiatric patients and all others in the community are being faced with isolation, loneliness, sudden bereavement. All psychiatric care settings are impacted by this pandemic, and its services for people who suer the mental consequences of having lived through this experience will be needed for years to come[19].

The major study was done on COVID-19 and Severe Mental Illness by Partheeban Muruganandama, Srinivasan Neelamegama et al which concluded that around thirty percent of stable patients before lockdown had a relapse, nearly three fourth of patients with SMI did not have adequate knowledge about symptoms (72%) and precautionary measures (64%) about COVID-19. Among them, around eleven patients (8.3%) were completely unaware of the ongoing COVID-19 pandemic and one out of five patients was not aware of the mode of transmission of COVID-19.

Inadequate social support was reported in about 35% of patients associated with verbal and physical violence from others. The pandemics might lead to the onset of psychiatric symptoms related to COVID-19 and can cause exacerbation of pre-existing illness in patients with severe psychiatric illness[20]. Aggressive acts with increased substance use and poor compliance for their psychiatric illness will have a significant social impact during this pandemic.

Tele-medicine can lead to new opportunities for addressing the consultation, compliance of patients with severe mental illness[21]. A comparative review from India by Naskar et al.[22] considered its effectiveness even in psychotic patients.

Based on this study we can recommend that vulnerable populations with severe psychiatric illness should be the focus of policy-making during lock-down

especially the patients from lower socioeconomic status, lower literacy levels & those with inadequate social support. It is essential to provide the tele-psychiatric platform to these patients by government authority.

CONCLUSION

Patients with a severe psychiatric illness suffered due to the lack of health care facilities, financial burden, and inadequate social support leading to exacerbations of their illness.

Limitation

Cross-sectional nature of the study with less number of patients recruited to conduct the study. A further follow-up study is required in the future for detailed elaboration.

Future directions:

A properly targeted approach is needed for these vulnerable populations during pandemics.

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ORIGINAL ARTICLE

Outcome of 23 Cases of Holmium Laser Cystolithotripsy Done in COVID-19 Pandemic Era: An Effective Mode of Bladder Stone Treatment

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ABSTRACT

Background: The endourology procedure cystolithotripsy using holmium YAG laser has brought a new approach towards bladder stone treatment and has presented itself as the treatment of choice as it is more effective in stone clearance and minimal post operative morbidity irrespective of the stone size.

Study objective: To demonstrate the efficacy of holmium YAG laser cystolithotripsy (HLC) in patients irrespective of the stone size.

Design: Descriptive type of retrospective clinical study.

Setting: Hospital based

Sample: A sample of 23 patients both male as well as female having bladder stone ranging from 8mm to 42mm admitted during Covid 19 pandemic period which stressed the need for minimal hospital stay along with increased treatment efficacy.

Duration of study: From December 2019 to June 2021

Results: All 23 patients presented with an excellent stone clearance with minimal morbidity irrespective of the size of stone and demographic differences. They also had lesser hospital stay without any complications.

Conclusion: HLC proposes a highly effective treatment option with better outcome as well as minimal patient complication and morbidity.

Keywords: Holmium YAG laser, Cystolithotripsy, Bladder stone, COVID–19 pandemic, Endourology.

INTRODUCTION

Bladder stone constitutes 5% of all stone patients and is the most commonly performed surgery in endourology departments[1]. A few years ago the standard teaching and concept of bladder stone treatment comprised of mechanical endoscopic breaking to percutaneous cystolithotripsy to open surgery like supra pubic cystolithotomy. Generally, cystolitholapaxy for <2cm size bladder stones, use of pneumatic lithoclast for 2-4 cm size stones for cystolithotripsy whether endoscopic or percutaneous and open surgery for stones more than 4 cm size is performed[2]. With change of time and easy availability of Hol:YAG laser at different centers the treatment scenario of bladder stone has changed completely. Using laser all sizes of bladder stone can be dealt without any hesitancy[3,4].

METHOD

This is a retrospective clinical study. 23 patients were operated in Covid - 19 pandemic era from December 2019 to June 2021 for different size of bladder stones. All patients had undergone holmium laser cystolithotripsy using 20 f/25f cystoscopy sheath with 365nm laser fiber in 5f ureteric catheter. Complete clearance was achieved by dusting and fragmentation. All procedures were done in regional and local anesthesia. The patients were categorized into three groups. Group A consisted of patients with bladder stone size <20 mm, group B consisted of patients with stone size 21-40 mm and group C consisted of patients with stone size > 40mm. Patients' demographic data, size of stone, operating time, total lasing time, difficulty and complication and hospital stay were recorded. All the patients were operated with their informed written consent and after confirming a COVID –19 RTPCR negative reports.

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RESULT

23 patients have been included in our study during this period. In group A (fig 1) the total no. of patients was 16, their mean age was 32.68 years ranging from 14 to 49 years. and all patients were male. The mean stone size was 14 mm ranging from 8 to 20 mm, the mean operating time was 35.62 minutes ranging from 30 to 60 minutes. Average lasing time was 13.25 minutes and mean hospital stay was 1.6 days.

Group B (fig.2) included 3 male and 3 female patients, the average size of the stone was 26.83 mm, had a mean operating time of 57.6 minutes, mean lasing time of 21.33 minutes and hospital stay of average 2.83 days.

Group C (fig.3) included a single male patient of age 70 years with a bladder stone of size 42 mm, had an operating time of 75 min, lasing time of 29 min and a hospital stay of 3 days.

All the patients treated showed excellent stone clearance without any complications and morbidity.

DISCUSSION

Bladder stones can be classified as primary and secondary stones. Primary stones are due to diet and nutritional deficiencies which are more common in developing countries and are mainly seen in pediatric patients[5]. Secondary bladder stones are formed due to urinary stasis and infection which is commonly seen in bladder outlet obstruction patients[6]. These types of bladder stones are more prevalent in developed countries. Although a variety of treatment methods, such as open cystolithotomy, pneumatic or laser transurethral cystolithotripsy, percutaneous cystolithotripsy, cystolitholapaxy and ESWL are available but none can be claimed to be better than another[7]. Open surgery is commonly performed in large stone burden causing great post operative morbidity and prolonged hospital stay for the patients[8]. The results of ESWL depend largely upon the stone size and Percutaneous suprapubic cystolithotripsy (PCCL) is an invasive procedure. Transurethral procedures are the best choice as they provide a wide array of tools that can be used to achieve stone clearance[9]. The use of the holmium laser has made it possible to fragment the stone into as minute particles as dust which ensures its easy removal with minimal hematuria and mucosal trauma resulting in least post operative morbidity and short hospital stay[10,11].

According to a study published in JCDR in 2016, by Nameirakpam S et.al. on 85 patients they have concluded that Transurethral cystolithotripsy with Holmium laser is an effective and safe procedure with large bladder stones and can be easily performed as a day care procedure the mean age of the patients is 52±7, mean size being 3± 1.2 and mean operating time of 40 ± 10 min. in their study[4]. A similar study by Karami H et.al., has suggested the same in a study done on 48 patients with a bladder stone of size >2cm[3]. The holmium laser cystolithotripsy(HLC) has a high success rate with reduced post operative morbidity being a minimally invasive procedure and can safely be used in pediatric bladder stone treatment as well as concluded in a study by Javanmard B et.al., and Gangkak G et.al.[9,10] HLC has proved to be an effective and excellent choice of treatment regardless of the bladder stone size as supported by a study by D'Souza N et al done on 37 male patients with excellent stone clearance and no recurrence rate[11].

In our study on 23 patients, we find similar results with excellent stone clearance irrespective of stone size[12,13], minimal post operative morbidity, no complications and short hospital stay (Table1).

Table 1: Demographic details of patients with stone size

	A	B	C
	Stone size <20 mm	Stone size 21-40mm	Stone size >40mm
No. Of Patients	16	6	1
Mean Age In Yrs	32.68 (14 -49)	55.5(51-64)	70
Gender (M:F)	16:0	1:1	1:0
Mean Stone Size In mm	14 (8-20)	26.83 (21-35)	42
Operating Time In Min.	35.62 (30-60)	57.6 (45-90)	75
Lasing Time In Min	13.25 (8-22)	21.33 (12-38)	29
Hospital Stay In Days	1.62 (1- 2)	2.83 (2-3)	3

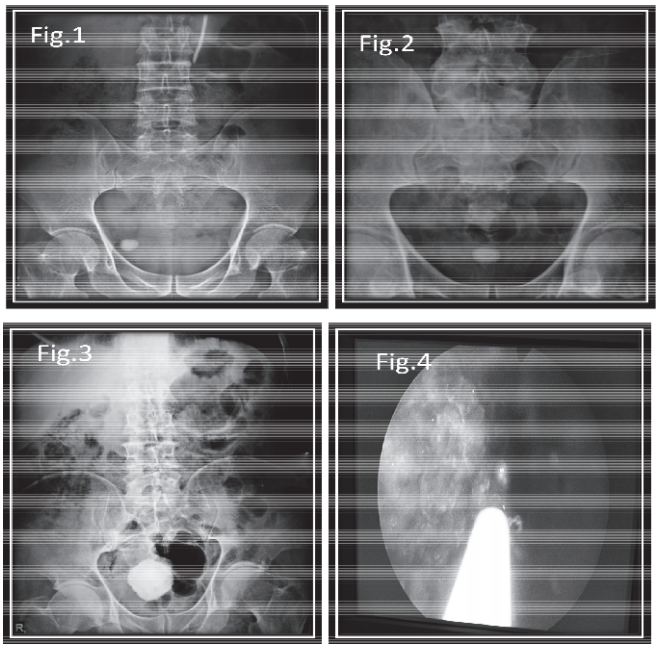

Fig.1: Group A: Stone Size <20mm

Fig.2: Group B: Stone Size 21 - 40mm

Fig.3: Group C: Stone Size >40mm

Fig.4: Holmium laser cystolithotripsy in bladder stone.

CONCLUSION

Holmium laser cystolithotripsy can safely and effectively be used for all sizes of bladder stones irrespective of demographic parameters with excellent results. It is an effective and essential endourology tool which has revolutionized and changed the approach towards bladder stone treatment.

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ORIGINAL ARTICLE

Histopathological Study of Neoplastic Lesions of Oral Cavity and Oropharynx at Tertiary Care Centre

Hema Udawat*, Hemlata Saini, Neha Gupta***, Samay Singh Meena******

ABSTRACT

Background: Current study was done with a prime objective to understand Incidence and Prevalence of benign & malignant lesions in different age group subjects with different sex identity along with clinical features. It was also sought to bring in to light about precancerous lesions in regard to oropharynx &oral cavity.

Method: 175 cases were considered for this study in respect of neoplastic lesions of oropharynx & oral cavity during May 2016 to April 2017.

Results: Out of 175 patients studied, 124 cases (70.86 %) were found to be malignant, 32 cases (18.29 %) were premalignant and 19 cases (10.86%) were benign. Males & females were in ratio of 2.18:1;respondents in age group of 61-70 years were found most commonly affected. Growth (33.71%) was observed as most common clinical presentation. 121 cases comprised 97.58% of malignant tumor were reported with Squamous cell carcinoma & was the most common malignant tumor. With regard to malignant neoplasms, the most common site found was the oral tongue (20.61%), preceded by Tonsil &Buccal mucosa. As most common preneoplastic lesion (65.62%), Dysplasia was observed & capillary hemangioma was the predominant benign lesion (36.84 %).

Conclusion: Oral and Oropharyngeal tumor is common in older males of low socioeconomic status. Malignant lesion found being commoner than benign due to tobacco chewing. As most common malignant neoplasm, Squamous cell carcinoma found as an emerging threat to community. Oral health programs should be initiated with special focus on creating strategies so as to improve current scenario where early diagnosis & prevention will be the key.

Key words: Oral Cavity, Oropharynx, Preneoplastic Lesions, Neoplastic Lesions, Dysplasia, Malignant Lesion

INTRODUCTION

Oral Cavity lesions are one of the most common lesions found in our day to day life. Oral cavity cancer is a diverse group of cancers that grow in multiple aspects of oral cavity, each with a unique set of risk factors, incidence, & clinical outcome[1]. As the most notable GLOBOCAN figures, there must be nearly 377,713 newly diagnosed cases of lip/oral cavity cancer as well as 98,412 new cases of oropharyngeal cancer globally in year 2020[2]. Oral cancer is indeed the 3rd most common cancer in emerging regions, trailing only cervical &Stomach cancer. Every year, an approximated 378,500 new cases of intra-oral cancer have been identified nationally and internationally[3]. Squamous cell carcinoma (SCC) arising from the lining mucosa, the squamous epithelium, account for more than 90% among all oral cavity malignant tumors[4]. Alcohol & Tobacco use are widely recognized potential risk factors for oral cavity cancers. Smoking is linked with an increased risk of malignant transformation than chewing tobacco, so both the rate and extent of smoking addiction are intrinsically linked to malignant transformation. 4-(Methyl-Nitrosamino)-1-(3-Pyridyl)-1-Butanone, N-Nitroso Nornicotine & Polycyclic Aromatic Hydrocarbons are by far the most prevalent and well-known Carcinogenic Chemicals in tobacco smoke oral cavity carcinogenesis[5]. Tobacco biting has popped up as a bigger and more powerful risk factor for oral carcinoma than smoking as it

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uncovers the mucosa straightforwardly for a prolonged period of time, whereas smoking has much more interactions with Oesophagus, Oropharynx, as well as Bronchi and Lungs.

MATERIAL & METHODS

The present study has been conducted prospectively on 175 cases of oropharynx & neoplastic lesions of oral cavity captured between May 2016 and April 2017 there at department of Pathology, J.L.N. Medical College & associated group of hospitals in Ajmer (Rajasthan). The material for analysis is comprised of all biopsy specimens & surgical resection samples collected with diagnostic procedures of neoplastic lesions of oral cavity & oropharynx obtained in department of Pathology from respective units of Medical College.

Inclusion criteria

1. A suitable and representative specimen of the lesion.
2. Surgical specimens that have been effectively excised, such as Punch/ Incisional/ Wedge Biopsies, Radical Neck Dissection, Surgical Excision, Hemimandibulectomy, Hemiglossectomy and soon are incorporated.
3. Oral Cavity &Oropharyngeal Neoplasm

Exclusion criteria

1. Poorly preserved specimen with handling artifact.
2. Inadequate clinical record (history and examination).
3. Nasopharynx-derived neoplasm

RESULTS

The current study was not a community-based study and therefore only involves specimens obtained in our pathology laboratory. To get a reasonable approximation of prevalence rate, cumulative oral cavity & oropharyngeal malignancy were evaluated by comparing to certain other neoplastic lesions. We found 6.2% of oral cavity and oropharyngeal cancer to total neoplastic lesions there in current study (Table 1).

As per findings of this study, 124 cases (70.86 %) were malignant, 19 cases (10.86 %) were benign, & 32 cases (18.29 %) were premalignant out of a sample of 175 cases. Respondents' mean age was 53.32 years in a wide range of 10 days - 87 years. Most prevalent group of age was between 61 to 70 years that comprises of 28 % (49 cases/175) & with 29.84% cases, highest incidence of oral malignancy was noted there in 7th decade of life (37 cases/124) (Table 1). Most lesions were more prevalent in males (85 cases) than those in female (39 cases). For malignant lesions, the male to female ratio was 2.17:1(Table 2). With 18.86%, Oral Tongue was the most frequently used spot (33/175) (Table 3, Figure 1). In addition, 20.16 % that is 25 cases in a total of 124 of malignant tumours appear on oral tongue (Table 4). With 41 cases comprising 23.43% of entire cases, Tobacco munching has been the most fairly common occurrence regarding oral cavity &oropharyngeal neoplastic lesions in this investigation (Table 5). 26.61% of 124 cases of malignant lesion were found associated with tobacco chewing & 16.13 % with smoking (Table 5). In the current study, the majority of cases (59; 33.71 %) displayed with growth, preceded by ulcer &ulceroproliferative growth (28; 16 %) (Figure 2, Table 6). The significant proportion of malignant lesions (42 out of 124 cases) furthermore demonstrates signs of growth (Table 7). With 97.58% that is 121cases out of entire 124 cases, Squamous cell carcinoma has been the most common malignant tumour; apart from these cases, 1 case of Adenoid cystic carcinoma, 1 case of Muco-epidermoid carcinoma, and 1 case of Non-Hodgkins lymphoma (Table 8) were other malignant types. There were 21 cases of dysplasia in premalignant lesions, 5 cases of Carcinoma in Situ, 5 cases of Leukoplakia, & 1 case of Erythroplakia. With 36.84% that is seven cases out of 19 cases, Pyogenic Granuloma was most widely known benign prior in the list namely Squamous Papilloma with 21.05% showing four cases out of 19, two cases of Pleomorphic Salivary Adenoma comprising of 10.52% and Angiofibroma, Schwannoma, Leiomyomatous Polyp, Oncocytoma, and Acrochorden have one case individually as well (Table 9). The present study noted a single case of Congenital Granular Cell Tumour (Figure 3). It was found in 10 month old female child on alveolar ridge noted since birth. It also observed that moderately differentiated carcinoma was most common grading of squamous cell carcinoma (Figure 4, Table 10).

Table 1: Incidence of Oropharyngeal Biopsies & Oral Cavity

Incidence of Oropharyngeal Biopsies &Oral Cavity							
	Biopsies received	Biopsies found to be neoplastic	Biopsies from oral cavity & oropharynx	Biopsies from neoplastic lesions of oral cavity and oropharynx	Benign	Pre-malignant	Malignant
No.	10234	2789	844	175	19	32	124
%		27.25%	8.01%	1.70%	0.18%	0.31%	1.21%

Table 2: Age wise distribution of oral cavity and oropharynx neoplasia cases

Age wise distribution					
S. No.	**Age group**	**Male**	**Female**	**No of cases**	**Percentage (%)**
1	0-10	0	1	1	0.57%
2	11-20	3	3	6	3.42%
3	21-30	2	3	5	2.86%
4	31-40	15	7	22	12.57%
5	41-50	27	13	40	22.86%
6	51-60	31	12	43	24.57%
7	61-70	34	15	49	28%
8	71-80	7	1	8	4.57%
9	81-90	1	0	1	0.57%
	Total	120	55	175	100

Table 3: Sex wise distribution oral cavity and oropharynx neoplasia

Sexwise distribution		
Sex	No. of Cases	Percentage (%)
Male	120	68.57
Female	55	31.43
Total	175	100

Table 4: Distribution of neoplastic lesions according to different sites in oral cavity and oropharynx

Distribution of neoplastic lesions		
S.N.	**Lesion's Site**	**Cases (%)**
1	Alveolus	17 (9.71%)
2	Buccal mucosa	29 (16.57%)
3	Floor of mouth	9 (5.14%)
4	Hard palate	10 (5.71%)
5	Lip	15 (8.57%)
6	Retromolar region	3 (1.71%)
7	Oral Tongue	33 (18.86%)
8	Base of tongue	18 (10.29%)
9	Pharyngeal wall	5 (2.86%)
10	Soft palate	5 (2.86%)
11	Tonsil	28 (16.00%)
12	Vallecula	3 (1.71%)
	Total	175 (100.0%)

Table 5: Oral cavity & Oropharyngeal Malignancies' distribution on the basis of Site

Oral cavity & Oropharyngeal Malignancies' distribution		
S. No.	**Lesion's Site**	**Cases & %**
1	Alveolus	11(8.87%)
2	Buccal mucosa	20 (16.13%)
3	Floor of mouth	6 (4.84%)
4	Hard palate	7 (5.65%)
5	Lip	3(2.42%)
6	Retromolar region	3 (2.42%)
8	Tongue	25 (20.16%)
9	Base of tongue	14 (11.29%)
10	Pharyngeal wall	5 (4.03%)
11	Soft palate	4 (3.23%)
12	Tonsil	23 (18.55%)
13	Vallecula	3 (2.42%)
Total		**124 (100%)**

Table 6: Distribution of habits among cases

Distribution of habits among cases		
S. N.	**Habits**	**Cases & (%)**
1	Smoking	22 (12.57%)
2	Tobacco/Pan chewing	41 (23.43%)
3	Alcohol	8 (4.57%)
4	Smoking+Tobacco/pan chewing	24 (13.71%)
5	Smoking+Alcohol	30 (17.14%)
6	Tobacco/pan chewing+Alcohol	17 (9.71%)
7	Tobacco/pan chewing +Smoking+Alcohol	3 (1.71%)
8	None	30 (17.14%)
Total		**175 (100.0%)**

Table 7: Presenting symptom of neoplastic case

Presenting symptom of neoplastic cases				
Symptom	**Benign**	**Premalignant**	**Malignant**	**Total (%)**
Pain	-	1	7	8 (4.57%)
Ulcer	-	7	21	28 (16.0%)
Growth	9	8	42	59 (33.71%)
Ulceroproliferative growth	-	-	28	28 (16.0%)
White patch	-	7	-	7 (4%)
Swelling	10	1	-	11(6.29%)
Mass in neck	-	-	7	7 (4%)
Change in voice	-	3	3	6 (3.43%)
Difficulty in swallowing	-	3	9	12 (6.86%)
others	-	4	5	9 (5.14%)
Total	19	32	124	175 (100%)

Table 8: Histopathological diagnosis of Malignant Tumours

Histopathological diagnosis of Malignant Tumours	
Histopathological Diagnosis	Cases & (%)
Squamous Cell Carcinoma	121 (97.58%)
Mucoepidermoid Carcinoma	1 (0.81%)
Adenoid Cystic Carcinoma	1 (0.81%)
Diffuse Large B Cell Lymphoma	1 (0.81%)
Total	124 (100%)

Table 9: Histopathological diagnosis of neoplastic cases

Histopathological diagnosis of neoplastic cases			
S.N.	**Histopathological Diagnosis**	**No. of Cases**	**Percentage (%)**
1	Acrochordon	1	0.57
2	Angiofibroma	1	0.57
3	Capillary hemangioma	7	4.00
4	Leiomyomatous polyp	1	0.57
5	Oncocytoma	1	0.57
6	Pleomorphic Salivary Adenoma	2	1.14
7	Congenital granular cell tumour	1	0.57
8	Neurilemmoma	1	0.57
9	Squamous Papilloma	4	2.29
10	Dysplasia	21	12.00
11	Leukoplakia	5	2.86
12	Erythroplakia	1	0.57
13	Carcinoma in Situ	5	2.86
14	Adenoid cystic carcinoma	1	0.57
15	Diffuse large B cell lymphoma	1	0.57
16	Mucoepidermoid carcinoma	1	0.57
17	SCC	121	69.14
	Total	175	100.00

Table 10: Squamous Cell Carcinoma's Histopathological Grading

Squamous Cell Carcinoma's Histopathological Grading		
Squamous Cell Carcinoma's Histopathological Grading	Cases	(%)
Well- Differentiated	50	41.32
Moderately- Differentiated	68	56.2
Poorly- Differentiated	3	2.48
Total	121	100

Figure 1: Photograph of hemiglossectomy specimen showing Firm gray white growth involving whole tongue 0.5 cm away from all margins

Figure 2: Photograph of ulcer proliferative growth on lower lip

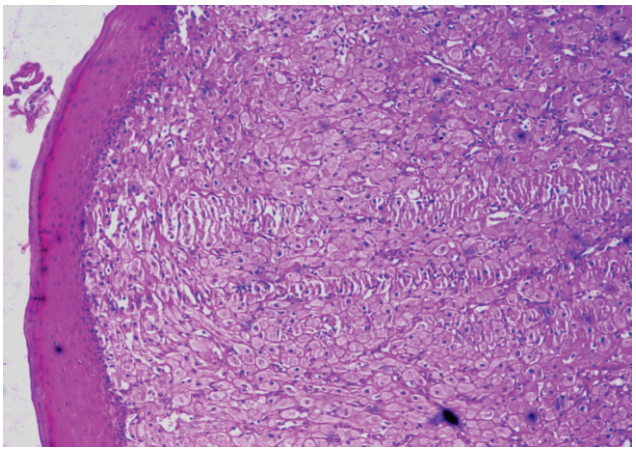

Figure 3: Congenital granular cell tumour H&E 100X

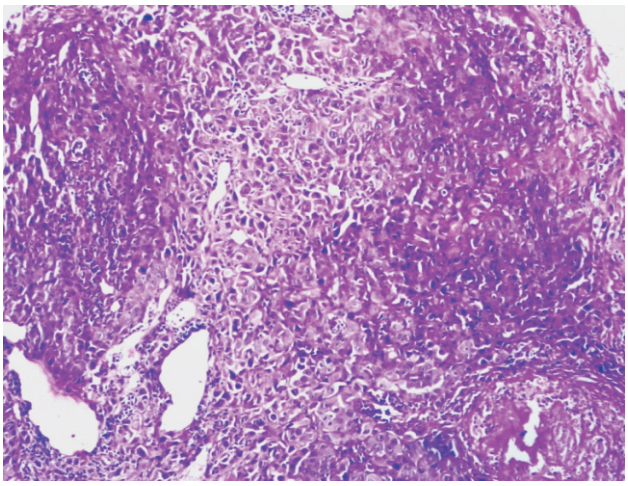

Figure 4: Moderately differ entiated squamous cell carcinomasshowing Nest of tumourcells. H&E 100X

DISCUSSION

In a case of India, the oral cavity is among the most common places for neoplasm, specifically in males. As fallout of increased tobacco consumption both in terms of munching & smoking is leading to variability of malignancy in India.

The study, which lasted through May 2016 - April 2017, included 175 malignant or benign oral cavity & oropharyngeal neoplastic lesions that were then assessed to explore clinical manifestations as well as histopathological trends among all neoplastic lesions. Drawn conclusions were then evidenced & scholarly works of other researchers of repute were then equated with these conclusions. Because the present study cannot anticipate the precise occurrences in the normal community, a statistical assessment of oral cavity &oropharyngeal cancer incidence to total neoplastic lesions was accomplished. Researchers ascertained 6.6% of oral cavity &oropharyngeal cancer to total neoplastic lesions in the present investigation that was nearly equivalent to Thakur, B. S.[6] 6.23 % as well as Sharma et al[7] 7 % of oral cavity &oropharyngeal cancer to total cancer. The minor difference could be credited to local variations in tobacco munching attitudes as well as other health and wellness factors associated. The age group 61-70 years (7th decade) was the most common in this study for developing oropharygealtumours & oral cavity, which is line with the observations of Bhat et al[8]. This study also reveals that females are less affected as compared to males as also depletes by ratio (male to female ratio - 2.18:1). Male to female ratio was 2.17:1 in case of

malignant lesions & that was found with the line of outcomes of the study by Abhinandan et al[9] (2.14:1) & MriduManjari et al[10] (2.18:1). Present study reveals 23.43 % cases with habit of tobacco chewing & 17.14% were both in habit of smoking & alcohol all together. On the contrary, Thakur B.S. (1975)[6] noted 42.7% smoker & 89.3% with a develop habit of chewing tobacco.

Tobacco/pan chewing (26.43%) was found as most common habit associated with oral and oropharangeal malignant tumours in current study that is then followed by smoking with 16.13%, smoking all together with alcohol (15.32%) and tobacco/pan chewing & smoking both (12.90 %) where as 11.29% in all comprising of only 14 cases were not found with any such history of orientation. Oral (tongue) with 18.86% was there major cases in current study followed by 16.57% cases of buccal mucosa which is in line with outcomes of Modi et al[11] who stated 30.8% cases of oral (tongue) and 28.20% of cases related tobuccal mucosa. With 20.1% (25 cases) oral (tongue) was reported as most common spot amongst malignant lesions in current study that is identical with the findings extracted in the study by Iype E Metal[11], Patel MM et al[12], Duzlu et al[13], Selvi U. P. at al.[14]

Study conducted by Agrawal et al [15]also showed tongue as the most common site followed by tonsil. 97.58% cases were found with squamous cell carcinoma in current study, 0.81% each was having Adenoid Cystic Carcinoma & Non-Hodgkins Lymphoma. With 93.3%, squamous cell carcinoma was found dominating group as stated by Mridu Manjari et al[10] in their study, 1.71% with Adenoid cystic carcinoma, 0.19% with Mucoepidermoid Carcinoma & 0.38% with non-hodgkins Lymphoma in line of this current study.

CONCLUSION

According to our findings, the significant proportion of oral cavity & oropharyngeal lesions were malignant. The most common place for neoplastic lesions of oral (cavity) & oropharynx was indeed the oral (tongue). Carcinoma was the most frequently diagnosed type, with Squamous cell carcinoma being the most prevalent type. The oral tongue had the highest proportion of Squamous cell carcinoma cases. Salivary gland tumours, both malignant and benign, have also been ascertained. Squamous papilloma, lobular capillary haemangioma, granular cell tumour, angiofibroma, oncocytoma, acrochorden, leiomyomatous polyp, pleomorphic salivary adenoma, and schwannoma were among the benign tumours identified. In the administration of oral lesions, a significant increase of presumption based on clinical findings & risk factors associated, as well as accurate and consistent histopathological typing of lesions to affirm or govern out malignancy, is considered necessary.

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ORIGINAL ARTICLE

Clinical Profile and Prescription Patterns of Patients with Epilepsy: An experience from Tertiary Care Center.

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ABSTRACT

Background: Newer ASDs (Antiseizure drugs) has changed prescription patterns in India as well as worldwide and it makes choosing appropriate drugs difficult for a different type of epilepsies. In the present study, we are trying to find out the current trend in the prescription pattern of ASD with the clinical profile of epilepsy in a tertiary care center.

Materials and Methods: Patients with Epilepsy who attended Neurology OPD in a tertiary care center in Rajasthan were enrolled between October 2017 to August 2020. Demographic variables including age, gender, type and description of seizures, neurological examination and details of the drugs prescribed, and cost were noted.

Results: Out of the 520 patients, 65% of patients had focal seizures, of which 54% had focal seizures with secondary generalization. About 51% of the patients were given monotherapy and 49% were given polytherapy. There was an inclination towards the prescription of newer ASD as compared to older ASDs with levetiracetam (26.92%) being the most commonly prescribed ASD in the monotherapy group and Sodium valproate or Levetiracetam with Clobazam were most commonly prescribed in 2 drug combination. The average cost of drug per prescription was between 500-1000 INR in 42% of cases, with Newer ASDs is much costlier in comparison to older ASDs.

Conclusion: This study documented a rising trend in newer ASD prescriptions with preference for monotherapy over polytherapy.

Keywords: Antiseizure drugs, Epilepsy, Prescription pattern

INTRODUCTION

Epilepsy is most widely recognized chronic neurologic problems, influencing nearly 70 million individuals worldwide. Despite of being a global disease, it has an unequal distribution, and about 80% of the affected individuals reside in developing countries[1].

Despite the current availability of different antiseizuredrugs (ASDs) globally, around 1/3rd patients with epilepsy could not achieve remission while on treatment[2]. In drug resistant epilepsy patients, an increasing trend has been documented in Pharmaco-epidimeological studies about use of ASDs[3].

In majority of patient selection of appropriate ASD is a limiting factor. As nowadays a significant amount of ASDs is available with different mechanisms of action, pharmacokinetics, efficacy and tolerability; therefore the choice for the right treatment is often challenging. The drug characteristic, the epileptic syndrome, seizure types and the patient's profile need to be taken into consideration before prescribing. In clinical practice monotherapy is much more desirable than polytherapy[4].

Variations have been documented in prescription of antiepileptic drugs in developed and developing countries[5]. Newer ASD has changed prescription pattern in India as well as worldwide and it make difficult for choosing appropriate drugs for different type of epilepsies.

Evidence exist in support of different treatment strategies in different groups especially old age and childbearing women[6]. The direct applicability of these regimens will be a greater issue in India due to higher cost

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of newer ASD and lack of medical insurances[5]. Thus in present study we are trying to find out prescription pattern of ASD in a tertiary care center and to the best of our knowledge very few studies have been conducted in India[5] which illuminates us on this matter.

MATERIALS AND METHODS

The present study is cross sectional observational study conducted by department of neurology in a tertiary care hospital attached to a Medical College in Rajasthan, India after receiving Institutional ethical committee approval. The study was conducted over the period of 3 years (from October 2017, to August 2020) in which all epileptic patients attending OPD and devoid of any other comorbid medical conditions like hypertension, metabolic disorders and renal disorders were included in the study.

Written Informed consent was taken from all the participants. Details of all the patients were captured in semi structured proforma which encompasses all the details regarding demographic profile, neurological examination and neuroimaging of patient, type of seizure (as per ILAE 2017 classification[7]), details of ASD prescribed, loss of the salary per visit and cost of the antiepileptic drugs.

Data thus compiled were analyzed further and quantitative data were analyzed by mean and standard deviation and qualitative data were analyzed by percentage and proportions.

RESULTS

Table1: Demographic data of patient with epilepsy

S. No.	Parameters	Number (%)
1	Mean Age ± SD	24.30 ± 12.7
	Median age (Range)	21(4-78)
2	**Gender**	
	Male (%)	276(53.07%)
	Female (%)	244(46.93%)
3.	**Domicile**	
	Rural (%)	359(69.03%)
	Urban (%)	161(30.97%)

A total of 520 patients with epilepsy were analyzed in his study. There was male preponderance (male – 53 % and female – 47 %) with a male to female ratio of 1.1:1. The mean age of patients was 24.30±12.7 years and median age was 21 years. Person with epilepsy belonged to rural areas (n= 359, 69.03%).

Table 2: Clinical Data of patients with epilepsy

S. No.	Clinical Variable	No. of patients
1	**Type of Seizure**	
	Focal Aware	22(4.2 %)
	Focal Impaired Awareness	36(6.9 %)
	Focal with secondary Generalization	281 (54.03 %)
	Generalized	181(34.80%)
2	**Associated with***	
	Tongue Bite	312(60%)
	Incontinence	156(30%)
	Loss of consciousness	432(83.07%)
	Abnormal Behavior	99(19.03%)
	*More than one symptom in one patient so total is above 520.	
3.	**Aura**	
	Present	172(33.07%)
	Absent	348(66.93%)
4.	**Postictal State**	
	Present	400(76.93%)
	Absent	120(23.07%)
5.	**Precipitating Factor**	
	Sleep Deprivation	114(21.92%)
	TV	6(1.15%)
	Physical Exertion	16(3.08%)
	Acute Stress	104(20%)
	Non Compliance	42(8.08%)
	Menstruation	16(3.08%)
	Other	68(13.08%)*
	None	154(29.62%)
6.	**Frequency of Attack**	
	Weekly	52(10%)
	Monthly	125(24.03%)
	Quarterly	83(15.96%)
	Yearly	62(11.92%)
	>1Year	198(38.07%)
7.	**Diurnal Variation**	
	Night	62(11.93%)
	Day	166(31.92%)
	Anytime	292(56.15%)
8.	**Substance use history**	
	Yes	47(9.03%)
	No	473(90.97%)

9.	**Birth History**	
	Premature	5(0.96%)
	Normal(without complication)	510(98.08%)
	Postmature	0(0%)
	Birth Asphyxia	5(0.96%)
10.	**Family History**	
	Not Significant	478(91.92%)
	Epilepsy	36(6.92%)
	Intellectual Disability	6(1.16%)

While looking at clinical data majority of patients (65.13%) had Focal seizure, among which 54 % patients had focal seizure with secondary Generalization followed by generalized seizure in 34.8%(n=181) cases, which includes Generalized tonic, Generalized clonic, Generalized tonic clonic, Absence (1.92% cases) and Generalized Myoclonic seizures. Loss of consciousness was common feature associated with seizures in around 432 patients (83.07%) and about 33.07% (n=172) had Aura. Seventy seven percent patients (n=400) had postictal confusion and headache. Majority of patients (n=198) were seizure free for more than a year. After going into the detailed history 6.9% patients (n = 36) had family history of epilepsy in one of the relatives.

Table 3: Neurological examination and Lab investigation

S. No.	Name of Neurological examination/Investigation	No. of patients (%)
1	**Higher Mental Function (HMF)**	
	Normal	494(95%)
	Abnormal	26(5%)
2	**Speech**	
	Normal	494(95%)
	Abnormal	26(5%)
3	**Motor System**	
	a. Upper Limb	
	Normal	426(81.92%)
	Abnormal	94(18.08%)
	b. **Lower Limb**	
	Normal	494(95%)
	Abnormal	26(5%)
4.	**EEG**	
	Normal	369(70.96%)
	Abnormal	151(29.04%)
5.	**CT Scan/ MRI Brain**	
	Normal	437(84.03%)
	Abnormal	83(15.97%)

Focal neurological deficit in the form of hemiparesis, hemiplegia, monoparesis, monoplegia, cranial nerve palsies and slurring of speech was reported among patients with HMF and Speech was abnormal in 26 patients (5%) and motor neurodefecit in upper limb and lower limbs was depicted in 18% and 5% patients respectively. Electroencephalography was abnormal in 29% patients and Neuroimaging was abnormal in 15% patients.

Table 4: Anti Seizure drug regimes prescribed

REGIME	Name of Drug	No.of patient (%)
1 Drug	Carbamazepine (CBZ)	47(9.03%)
	Phenytoin (PHT)	16(3.07%)
	Levetiracetam (LEV)	140(26.92%)
	Sodium Valproate (VAL)	62(11.92%)
	TOTAL	**265 (50.96 %)**
2 Drugs	PHT + CLO	10 (1.92%)
	PHT + LEV	26 (5%)
	PHT + PHB	4 (0.76%)
	VAL + OCB	5(0.96%)
	VAL + PHB	10(1.92%)
	VAL + CLO	47(9.03%)
	LEV + CLO	47 (9.03%)
	LEV + VAL	21(4.03%)
	LEV + OCB	10(1.92%)
	OCB + CLO	6(1.15%)
	TOTAL	**186 (35.8%)**
3 Drugs	CBZ + LEV + CLO	10(1.92%)
	CBZ + LEV + VAL	5(0.96%)
	PHT + LEV + CBZ	6(1.15%)
	PHT + LEV + CLO	5(0.96%)
	PHT + CBZ + PHB	6(1.15%)
	PHT + VAL + PHB	5(0.96%)
	PHT + PHB + LEV	6(1.15%)
	VAL + LAC + LEV	5(0.96%)
	VAL + LEV + CLO	21(4.03%)
	TOTAL	**69 (13.2 %)**

Abbreviation- Carbamazepine (CBZ), Phenytoin (PHT), Levetricetam (LEV), Sodium Valproate (VAL), Clobazam (CLO), Phenobarbitone (PHB)

Half of the patients (50.96 %) were being managed on a single ASD treatment regimen. Of which, Levetiracetam was the most frequent drug (26.92%) followed by Sodium Valproate (11.92 %) and Carbamazepine (9.03 %) respectively. The remaining half

of the patients were on polytherapy of ASDs. Of which, Valproate with Clobazam and Levetiracetam with Clobazamwere the most prescribed 2 drugs combinations (9.03%) while Valproate, Clobazam with Levetiracetam topped the list of 3 drugs combinations.

Table 5: Average Loss of Salary during each doctor visit

S .No.	Range of loss of salary per visit (INR)	No. Of patients(n=520)
1	⩽500INR	156(30%)
2	501INR-1000INR	234(45%)
3	1001 INR-5000INR	99(19.03%)
4	>5001 INR	31(5.96%)

People spent more than three hours on the average doctor's visit, which means they spent three hours not doing work and sometimes they even take full day leave. In our study, average loss of salary during each visit is around 500-1000 Rs. in 45 % (n=234) patients.

Table 6: Cost of antiepileptic drugs per month

S. No.	Cost of antiepileptic drug per month (INR)	No. of patients (N=520)
1	50 INR-500 INR	130(25%)
2	501-1000 INR	218(41.92%)
3	1001-2000INR	135(25.96%)
4	2001-3000 INR	26(5%)
5.	>3000 INR	11(2.11%)

Table 7: Cost analysis

REGIME	Name of Drug	Maximum cost (per month)-INR	Minimum cost (per month)-INR
1 Drug	CBZ	2000	150
	PHT	600	60
	LEV	2000	350
	VAL	2200	300
2 Drugs	PHT + CLO	700	300
	PHT + LEV	1200	400
	PHT + PHB	300	60
	VAL + OCB	1700	900
	VAL + PHB	1500	600
	VAL + CLO	2500	850
	LEV + CLO	2500	800
	LEV + VAL	3000	1000
	LEV + OCB	2000	1000
	OCB + CLO	1700	950
3 Drugs	CBZ + LEV + CLO	2800	300
	CBZ + LEV + VAL	3400	600
	PHT + LEV + CBZ	2500	750
	PHT + LEV + CLO	1000	450
	PHT + CBZ + PHB	1704	850
	PHT + VAL + PHB	1200	500
	PHT + PHB + LEV	980	535
	VAL + LAC + LEV	3600	1200
	VAL + LEV + CLO	2500	1100

Abbreviation- Carbamazepine (CBZ), Phenytoin (PHT), Levetricetam (LEV), Sodium Valproate (VAL), Clobazam (CLO), Phenobarbitone (PHB)

In table 6 and 7, the prices of various anti seizure drugs available in the Indian market and produced by different pharmaceutical companies were analyzed.

The average cost of Anti seizure drugs per prescription was between 500-1000 INR for 42% cases (n=218), 1001-2000 INR for one- fourth patients (n=135) and 50- 500 INR for another one-fourth patients. Minimum and maximum average cost in rupees (INR) per prescription of the monotherapy drugs (most commonly prescribed - levetiracetam and valproic acid) was around 300-2000 INR respectively, and that of polytherapy is given in table 8.

DISCUSSION

A total of 520 Patients with epilepsy were enrolled in this study. The median age of onset of seizure

was 21 years (range, 4 years to 78 years) with mean age of patients was 24.30±12.7 years, which is in consistent with our previous studies[8,9]. Majority of previous studies from India reported a higher prevalence during the 2nd decade[7-,10] while few others reported a bimodal distribution of epilepsy incidence with peaks during early childhood and 2nd during later age of life at their 70s and 80s[10,11].

Our study reported, male preponderance with a male to female ratio of 1.1:1 which was consistent with other studies done in last several years[8-10]. This difference is usually attributed to male's greater exposure to risk factors for Symptomatic localization-related seizures[12] and comparatively higher mortality among female children due to poor care.

Majority of patients in our study belonged to rural population (around 69%) which is similar to the other several studies[10,11]. The possible reasons for this difference could be because of obvious fact that rural population constitutes 63 % of the Indian population[13], limited health care facilities, delivery injuries, malnutrition and several other factors.

Sixty five percent of patients had focal seizures and 35 % had generalized seizures. Subclassification of Focal seizures revealed Focal Aware seizures in 4.2 % of the cases, Focal Impaired Awareness seizures in 6.9% and Focal with secondary Generalization seziuresin 54 % of the cases. Tonic-clonic seizures were the most common type of generalized seizures with absence seizures were seen in 2% of the cases. It was similar to the other studies done in various parts of world[14-16].

In our study 33 % of the patients had aura, which are typically associated with focal epilepsy but a substantial proportion has been reported with generalized epilepsy also. This was also reported in other previous studies[17]. Loss of consciousness was common feature, which could be due to the fact that abnormal *decreased* activity in bilateral fronto-parietal association networks may impair consciousness in complex partial seizures, while abnormal *increased* activity in these same networks may impair consciousness in generalized tonic- clonic seizures[18,19]. Seventy seven percent patients had postictal confusion and headache.

The availability of several ASDs have drastically improved the seizure control in patients with epilepsy. That's why about half of patients in our study were seizure free for a year or more. A positive family history was found in 6.9 % of patients in our study as compared to 7.2% to 32% in various other studies[20,21]. The familial aggregation of disease may be explained by shared genetics and exposure to similar environmental factors .

Epilepsy is often associated with various cognitive, language, motor, sensory and behavioral impairments which may be of variable duration[22]. In our study, 5% patient had cognitive and language impairment with motor neurodefecit in upper limb and lower limbs was 18% and 5% patients respectively.

Among the distribution of ASD treatment regimens, about half of patients were on monotherapy and another half on combination therapy. LEV, VPA, CBZ and PHT were the most regularly prescribed ASDs in monotherapy regimens. In this study, there was an inclination towards the prescription of newer ASD as compared to older ASDs, as studies conducted so far had showed levetiracetam as a suitable option for initial monotherapy in newly diagnosed epilepsy, especially in women of child bearing age with better tolerability and improved compliance among patients due to longer treatment withdrawal time[23,24].

As per Indian rules on epilepsy, treatment ought to be started with one ASD without changing the brand. In the event if the patient doesn't react to monotherapy, then, at that point the antiepileptic can be changed and the dose of ASD can be gradually increases till seizure controlled is accomplished. Combination therapy to be considered after two endeavors at monotherapy have failed[25]. Valproate or Levetriacetam with Clobazam were the two most commonly prescribed drugs combinations. This could be due to fact that clobazam is safe and well tolerated add-on antiseizure drug, which is effective in both types of seizures *i.e.* generalized as well as focal[26]. Other ASD combinations which were prescribed in our study were first generation and second generation ASDs (like, phenytoin and levetriacetam or valproate and levetriacetam), those with differing mechanisms of action which is proven to be more effective than polytherapy with similar mechanisms of action[27,28]. In our study, >2 drugs were given to a 13.2 % of patients with combination of VAL, LEV and CLO as most commonly prescribed among all. “Third generation” ASDs (eglacosamide) was added as adjunctive treatment in cases with refractory seizures, as it has synergistic interaction with various AEDs, without additional adverse effects[29].

In the present study, the cost of daily dose of the most commonly prescribed brand of both older and newer ASDs was noted. Overall Newer AEDs is much costlier in comparison to older AEDs which was in concordance with the finding of another studies[5,30]. In our study, the total cost of monthly treatment of levetiracetam with older drug like valproic acid as monotherapy was found to be equivalent. Average monthly cost of ASD vary per prescription, due to difference between cost of generic ASD & different brands of ASDs, drug dose of same ASD and combination prescribed.

CONCLUSION

The Clinician selection of ASD depends upon the drug efficacy, tolerability, seizure type, patient's profileand affordability; therefore the choice for the right treatment is often challenging. This study documented a rising trend in newer ASD prescription, monotherapy should always be preferred over polytherapy.

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DRUG UPDATE

Centhaquine: The New Paradigm in Hypovolemic Shock Management

Monica Jain*, Anil Bhandari**

INTRODUCTION:

2-[2-[4-(3-Methylphenyl) piperazin-1-yl] ethyl] quinoline citrate, or, Centhaquine.

Indian scientist found in earlier animal model studies that drug has paradoxical effect. The drug with higher doses decreased blood pressure, lower doses in fact increased blood pressure in rats with blood loss. This led to studies which revealed that centhaquine is a highly effective resuscitative agent for the hypovolemic shock.

Centhaquine is indicated as a newer resuscitative agent for the treatment of patients with hypovolemic shock as an adjuvant of care. Centhaquine uniquely stimulates alpha 2β-adrenergic receptors to increase venous blood return and cardiac out put ; and on alpha 2α-

adrenergic receptors to decrease vascular resistance, thereby enhancing tissue blood perfusion.

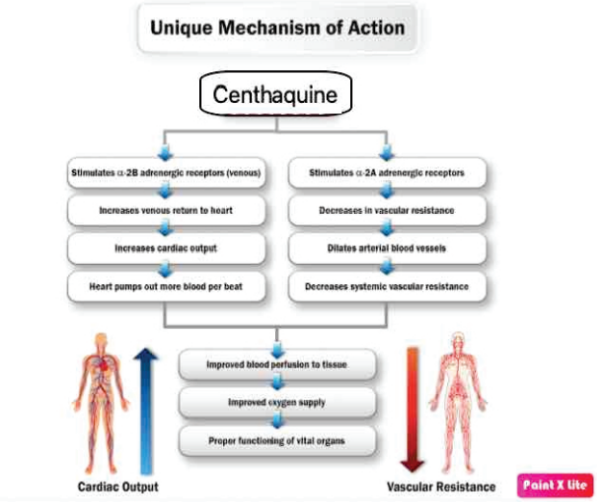

Diagram 1: adopted from lyfaquin.com

Enhancing tissue blood perfusion has a significant advantage in reducing the volume of resuscitation and preventing extravasation of fluids, fluid over load. Centhaquine does not act on beta-adrenergic receptors and therefore the risk of arrhythmia is mitigated.

Preclinical studies :

In a rabbit blood loss model, a pig and a rat model centhaquine significantly reduced the amount of fluid and norepinephrine needed to maintain a target mean arterial pressure.

Serum lactate levels were also lower in the centhaquine group an hour after resuscitation. This is noteworthy, as hypovolemic shock increases serum or blood lactate, which characterised into a poor prognosis that is high risk of mortality and poor patient outcomes.

Clinical studies in humans:

In a phase 1 trial to determine safety and tolerability, intravenous centhaquine was found to be safe and well tolerated. The adverse events happened only at a dose ten times the normal therapeutic dose of 0.01 mg/kg. However, they were mild and resolved within an hour without medical interventions.

Phase 2 trail of Centhaquine's safety and efficacy as a resuscitative agent alongside the standard treatment for hypovolemic shock from blood loss; When given 0.01 mg/kg centhaquine, patients had improved blood pressure, lactate levels, required less vasopressors, and had reduced mortality. Any adverse events in this trial were unrelated to the study.

After promising out-come of phase 1 and 2 trials; a phase 3 trial took place in multiple emergency rooms and ICU units within India. Patients with a mean arterial blood pressure (MAP) of 65 mmHg or less and lactate levels indicative of shock, and who were receiving standard care for hypovolemic shock were intravenously given 0.01 mg/kg centhaquine or a control. 71 patients were given centhaquine, and 34 were given a control dose of normal saline, all of whom had lost a similar amount of blood. If systolic blood pressure remained below 90 mmHg after four hours, another dose was given. The minimum number of doses given over 48 hours was one , and the maximum was six.

After twenty days, the mortality in the group given centhaquine was 2.94%, versus 11.76% in the

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control group. The serum lactate levels after three days were also significantly higher in the control group, with only 46.88% having a level of 1.5 mmol or less, compared to 69.35% of the group given centhaquine. Patients given centhaquine also showed an increase in pulse pressure and mean arterial blood pressure.

SOFA score were improved in patients given centhaquine. Contrastingly, the control group had no change in acute respiratory distress syndrome scores, and actually saw worsening multiple organ dysfunction.

Method of Preparation:

Therapeutic dose: 0.01mg/kg body weight

Safety and Contraindications:

Hypersensitivity to Centhaquine or to any of the excipients.

Special warnings and precautions for use:

Centhaquine should be administered with precautions in hepatic failure, renal failure and decompensated heart failure patients as safety and efficacy of Centhaquinehas not been established in the same cases

The safety and efficacy of Centhaquine is also not established in pregnancy, lactating women, paediatric and geriatric population.

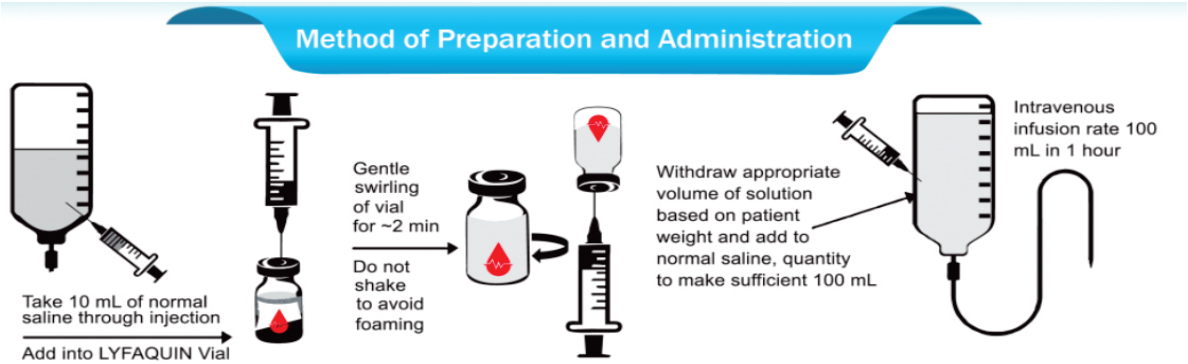

Diagram 2: adopted from lyfaquin.com

Drugs interactions:

No drug-drug interaction or drug-food interaction has been observed.

Together, these preclinical and clinical results show that centhaquine is an effective and safe resuscitative agent for hypovolemic shock, improving patient outcomes and saving lives. Centhaquine is now approved for use by the Drug Controller General of India as an additional resuscitative agent for hypovolemic shock.

REFERENCE : On line access on 28/07/21 from following links

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4. https://lyfaquin.com

CASE REPORT

Spontaneous Intracranial Hypotension with Cerebral Venous Sinus Thrombosis: A Case Report

Anjani Kumar Sharma*, Kapil Khandelwal **, Shashank Sharma*, Vidit Mathur ****, Pranjal Sharma *****

ABSTRACT

Background: Spontaneous intracranial hypotension (SIH) is secondary headache due to CSF leak leading to orthostatic headache. SIH further complicating and leading to cerebral venous sinus thrombosis (CVST) is rare. This poses unique case scenario and therapeutic dilemma.

Case Presentation: We present a case of 35 year female with chronic postural headache and features suggestive of SIH for few years. She presented with acute worsening of headache and altered behavior for which her MRI brain with venography showed CVST (Superior sagittal, Right Transverse and Sigmoid sinus). She was initially treated with bed rest, high fluid intake, low molecular weight heparin and analgesic (NSAID, Tramadol) with mild relief only. As symptoms persisted, further workup was done and interestingly, she had nontraumatic CSF leak at lumbar region. Later targeted epidural blood patch (EBP) was done at lumbar region and patient got significant relief.

Conclusion: This case highlights early identification of SIH complication as CVST, nontraumatic lumbar site of CSF leak and role of targeted EBP in SIH management.

KEYWORDS: Spontaneous intracranial hypotension, cerebral venous sinus thrombosis, epidural blood patch.

INTRODUCTION

Spontaneous intracranial hypotension (SIH) is usually under diagnosed entity and characterized by orthostatic headache, low CSF pressure <60mm H2O and neuroimaging suggestive of brain sagging with or without demonstrable CSF leakage in absence of history of dural puncture or trauma. Diagnosis is based on criteria laid by ICHD 3rd edition[1] or Schievink criteria[2]. The Hallmark presentation is orthostatic headache. It may be associated with photophobia, neck stiffness, nausea, vomiting, vertigo and tinnitus. Rarer presentation includes cranial nerve palsy, parkinsonian features, cerebellar ataxia, and alteration in consciousness or cognitive impairment due to compression of brain or spinal cord[3].

Complications like cerebral venous sinus thrombosis (CVST) area rare phenomenon in 1-2% cases of SIH[4], leading to unique case scenario and therapeutic dilemma. Here we present a rare case of SIH complicated by CVST.

CASE REPORT:

A 35 year female presented with moderate to severe holocranial headache with recurrent episode of vomiting for 5 days. Headache was continuous with significant increase in sitting and partial relief on lying supine, and on taking NSAIDs and antiemetic. Following this she developed confusion and drowsiness for last 1 day.

In past, she had headache for 5-6 years, which was holocranial, moderate to severe, feeling of stretching sensation and worsening with postural change, more with prolonged standing and associated with occasional vomiting and took NSAIDs for relief. Her previous MRI brain (2 years back) showed descending cerebellar tonsillar herniation, decreased mamillo-pontine distance, decreased ponto-mesencephalic angle, rounding of dural venous sinuses contour.

In view of her worsening symptoms, MRI brain

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with contrast (Fig 1, 2) was done and showed effaced basal and peri-mesencephalic cistern, prominent peri-optic subarachnoid spaces with distension along the both optic nerve and cerebellar tonsillar herniation. MR Venography (Fig. 3) showed thrombosis in cortical veins, superior sagittal sinus and right transverse and sigmoid sinus.

Blood investigation including CBC, ESR, RFT and LFT and urine routine examination was normal. Further work up revealed ANA, APLA, ACLA, Lupus anticoagulant and viral serology (HBsAg, AntiHCV, HIV) was negative.

In view of neuroimaging features of CVST, she was started on anticoagulation (Enoxaparin) and analgesics (NSAIDs and tramadol) with advice for high fluid intake. Her confusion improved but headache with severe exacerbation in sitting position persisted. As presenting symptoms, past history and imaging also suggested SIH, she was planned for CT myelography to look for evidence of active CSF leakage which may be responsible for her symptomatology. CT myelography (Fig. 4) revealed leakage of intrathecal contrast into the extra-dural spaces on the right side at L1-L2 level (two sites of leakage at this level with proximal one smaller compare to the distal one). Thus, autologous Epidural Blood Patch (EBP) at lumbar region was done. Her headache gradually improved with less frequent orthostatic component. She was discharged on oral anticoagulation and is doing well on follow up visits.

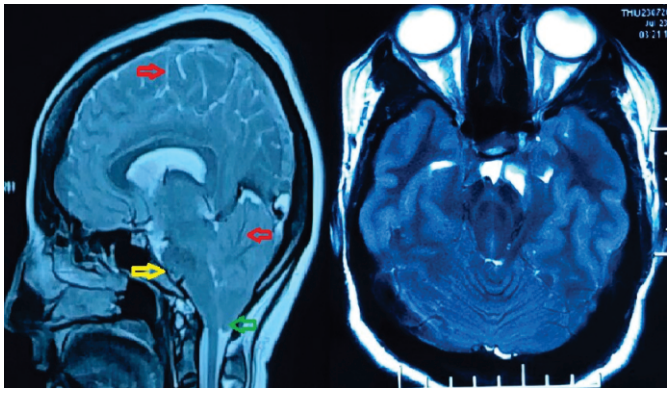

Fig. 1 - MRI brain T2W sagittal image shows reduced CSF space (Red arrow), cerebellar tonsillar herniation (green arrow), flattening of pons, effacement of prepontine cistern and reduced CSF in fourth ventricle (yellow arrow). T2W Axial image shows effacement of perimesencephalic cisterns and compression over midbrain.

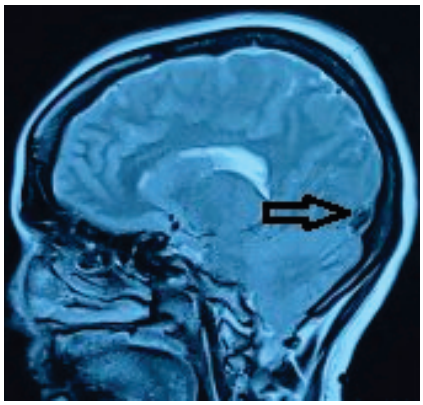

Fig. 2 T2W sagittal image show venous distension sign (black arrow).

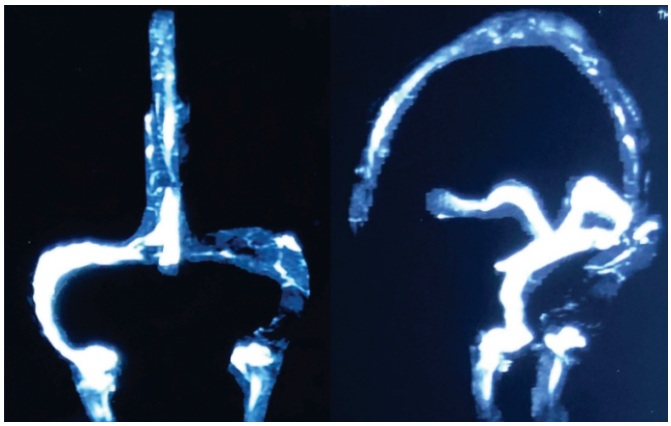

Fig. 3 MR venography shows filling defect in superior sagittal, right transverse and right sigmoid sinus.

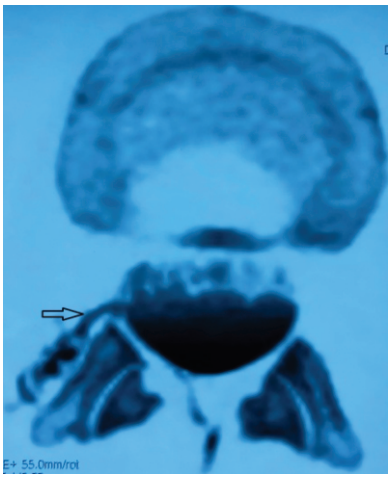

Fig. 4 CT myelography shows CSF leak at L1-2 level.

DISCUSSION

SIH is the result of spontaneous CSF leaks from dural rent, nerve root diverticula or CSF-venous fistula. Risk factors are hereditary (Ehlers-Danlos syndrome or Marfan syndrome), acquired (trauma) or iatrogenic (significant weight loss as in post bariatric surgery patient, lumbar puncture, spinal anesthesia or chiropractic manipulation)[3]. Most common site for CSF leak is cervicothoracic junction and rarely lower thoraco-lumbar spine or cranial.

As stated by Monro-Kellie hypothesis, total intracranial volume remains constant and three components (Parenchyma, CSF and blood) exist in equilibrium to maintain intracranial pressure in an intact skull. So, decrease in CSF volume (due to CSF leak) is compensated by venous engorgement as veins are more distensible. This explains most of brain MRI features in patient of SIH. Neuroimaging shows typical diffuse pachymeningeal gadolinium enhancement[5] due to increased venous blood volume. Other findings may include atraumatic subdural fluid, hematoma/hygroma, pituitary hyperemia, brain sagging (low lying cerebellar tonsil, flattening of the ventral pons, decreased pontomamillary distance, effacement of subarachnoid spaces including prepontine and perichiasmatic cisterns) and extradural fluid collections in spinal cord.

SIH associated with CVST is a very rare entity and only few case reports exist in literature[6,7]. SIH leading to CVST can be explained by several mechanisms. Most common being reduced blood flow velocity due to venous engorgement caused by continuous CSF leak. CSF absorption also reduces (due to decrease CSF volume) leading to increased blood viscosity. Characteristic brain sagging of SIH can cause stretching of venous outflow tracts (worsening venous expansion) and damage endothelial linings (alter CSF absorption capacity). These multiple factors predispose to formation of thrombus in venous sinuses[5].

SIH improves spontaneously in most of cases with bed rest, adequate hydration and caffeine. If symptoms persist, EBP is gold standard[8]. While management guidelines of CVST consist of anticoagulation and treatment of primary etiology.

Management of CVST with SIH imposes a therapeutic dilemma as anticoagulation can worsen already present suduraleffusion/hematoma and complicate condition[9,10]. In most case studies, SIH was treated with conservative approach while anticoagulation was used for CVST. Most common CSF leak site was cervicothoracic region and EBP was done in 1/3rd cases only.

In our case, patient had orthostatic headache for 5-6 years and prior MRI brain suggested SIH. Her recent exacerbation of headache which persisted in supine position, later turned out to be CVST (treated with anticoagulation). Our case further enriches the understanding of rare complication of SIH with CVST. Other unique feature to our case was the nontraumatic, lumbar site of CSF leak and the use of more effective targeted EBP for SIH.

CONCLUSION

Our case highlights early identification of change in headache symptomatology helps in diagnosing and treatment of potentially life threatening but treatable condition. Treatment of SIH complicated by CVST is difficult but careful approach with anticoagulation for CVST and targeted EBP for SIH can lead to a good outcome.

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CASE REPORT

Rare Case of Extra Hepatic Umbilical Vein Thrombosis with Superimposed Infection.

Rajat Singhal*, Rahul Sharma*, Ashish Mahla, Annu Bhandari***, Mukesh Mittal****, Kuldeep Mehandiratta*****

ABSTRACT

Umbilical vein thrombosis (UVT) is an uncommon entity which is being increasingly recognized in neonates. Iatrogenic causes such as placement of umbilical venous catheters and severe neonatal disease are major risk factors for umbilical vein thrombosis. We present a case of 20 days old infant who presented with a tender knot in the upper abdomen diagnosed as extra hepatic umbilical vein thrombosis on USG and CT. Interestingly the baby didn't have history of umbilical vein catheterization. Baby was admitted and given intravenous antibiotics and later oral antibiotics. Follow-up USG at 2 months showed complete resolution of the thrombosis and abscess with no residual changes.

Clinical features of umbilical vein thrombosis range from asymptomatic course to umbilical vein thrombophlebitis, liver abscess, sepsis, portal vein (PV) thrombosis and their sequelae. Further course of disease is variable with possibility of high perinatal morbidity and fatality.

USG is the investigation of choice to evaluate the thrombus and its extensions as well as response to treatment. Treatment mainly includes antibiotics and thrombolytic if required. Differential diagnosis of this entity includes thrombosed umbilical vein varix.

INTRODUCTION

Thrombosis of the umbilical vessels is a rare event, occurring in 1 in 1500 deliveries[1]. Heifetz[2] reported an incidence of umbilical cord thrombosis of approximately 1 in 1300 deliveries, 1 in 1000 perinatal autopsies, and 1 in 250 high-risk gestations. Fetal outcome is usually poor, especially when the thrombus forms in one or both umbilical arteries. Umbilical vein thrombosis occurs more that of umbilical arteries. Thrombosis of umbilical vein after birth is another rare entity attributed to mainly umbilical venous catheter placement and severe neonatal sickness.

CASE REPORT

A 20 days-old previously healthy male infant presented to our institution with a 5-day history of abdominal distension, a tender "knot" in the upper abdomen and not passing stools since 5 days. The baby was born by caesarean section due to multiple umbilical cord loops around the neck of baby after an uncomplicated full term gestation. At birth umbilical region was normal and umbilical stump was healthy. The immediate perinatal course was uncomplicated, and there was no history of umbilical catheterization, as per the parents. Antenatal USG showed left multi-cystic dysplastic kidney and it was confirmed on postnatal USG. On arrival is our institution, the patient had a temperature of 37°C (no fever). All other vital signs were normal. Weight of baby was 2.5 kg. On palpation, a painful firm mass was felt in the periumbilical region. Rest of the physical examination findings were normal. Results of laboratory work-up were normal.

The patient underwent USG followed by contrast enhanced CT scan. Grey scale US images through the epigastric region demonstrate expanded tubular extra hepatic umbilical vein in supraumbilical area with heterogeneous content (thrombus within) with no vascularity. Also a breach in the anterior wall with spillage of the content in anterior abdominal wall (potential abscess formation) was seen.

Contrast enhanced CT of the abdomen, and pelvis showed a tubular hypodense area seen in region of extra hepatic umbilical vein with surrounding enhancement(s/o thrombus with early abscess formation). Portal and hepatic veins were normal.

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A diagnosis of thrombosed extrahepatic umbilical vein with likely abscess formation was established. The patient was admitted and given intravenous antibiotics and later oral antibiotics. The baby was then discharged on oral antibiotics. Follow-up USG at 2 months showed complete resolution of the thrombosis and abscess with no residual changes. There was no evidence of any collateral formation and portal vein was normal.

DISCUSSION

Umbilical vein thrombosis is an uncommon entity which is being increasingly recognized in neonates. Incidence of in utero umbilical vein thrombosis is approximately 1/1500 neonates, and in 1/250 high-risk births[1]. Heifetz (1988)[2] reported a slight male predominance in the occurrence of these events. Umbilical vein thrombosis occurs more commonly than umbilical arteries, however fetal mortality is more with arterial thrombosis.

Schrocksnadel et al[3]. have suggested possible aetiologies of umbilical vein thrombosis including mechanical, vascular, inflammatory, fetal, maternal, and iatrogenic. Umbilical venous catheter placement and severe neonatal sickness are the major risk factors for umbilical and portal vein thrombosis. Larciprete et al[4]. have proposed meconium staining as a possible causative factor in umbilical vessel thrombosis. In our case the baby didn't have any history of umbilical vein catheterisation or any of the above risk factors which makes this case even rare.

Clinical features span from asymptomatic course to umbilical vein thrombophlebitis, liver abscess, sepsis, portal vein (PV) thrombosis[5-7] and their sequelae. Further course of disease is variable with possibility of high perinatal morbidity and fatality. Our baby presented with tender and firm mass in the periumbilical region.

USG is investigation of choice to evaluate the thrombus and its extensions as well as response to treatment. Treatment mainly includes antibiotics and thrombolytic if required.

Another condition which may mimic the umbilical vein thrombosis is thrombosed umbilical vein varix[8]. However, it is very rare and may lead to in utero fetal demise decreasing its presentation in neonates. Umbilical vein varix is focal dilatation of the extra hepatic umbilical vein more than 9 mm or 50% greater than that of the intrahepatic umbilical vein. It is typically diagnosed on routine antenatal US as an extrahepatic hypo or anechoic elongated structure located between the anterior abdominal wall and the inferior edge of the liver, with internal flow at Doppler US.

CONCLUSION

Umbilical vein thrombosis is rare entity which is currently being increasing recognized due to improperly inserted umbilical vein catheterisations. An open eye should be kept for any complications in such a case to prevent the morbidity and mortality to the patient.

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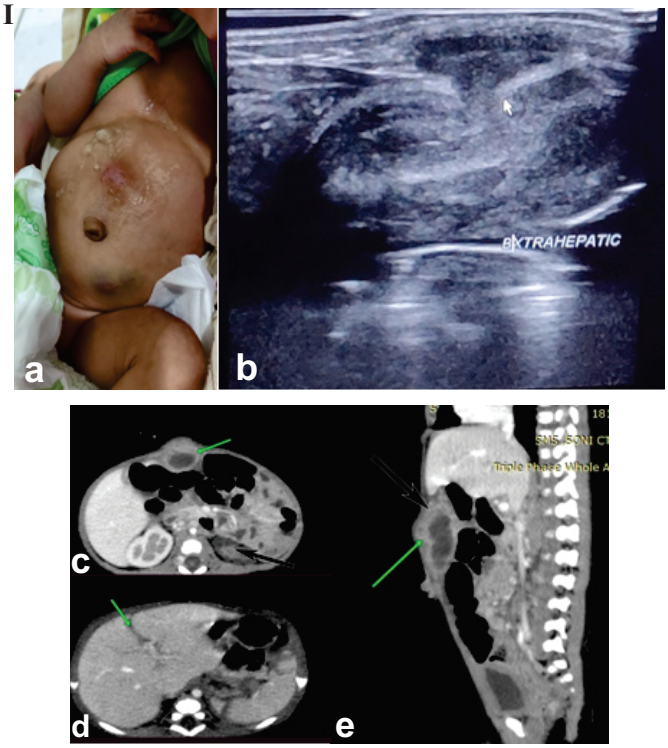


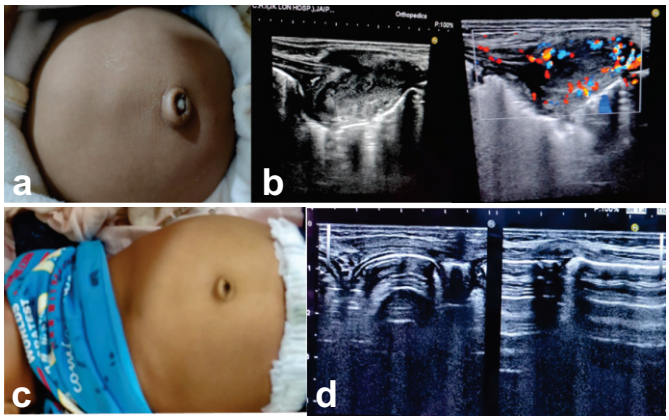
a) 20 days infant showing reddish colour swelling over supraumblical area

b) Grey scale USG demonstrates expanded tubular extrahepatic umbilical vein in supraumblical area with heterogenous content (thrombus within) with no vascularity. White arrow shows breach in the anterior wall with spillage of the content in anterior abdominal wall (potential abscess formation)

c) CECT axial abdomen : Expanded hypodense area seen in region of extrahepatic umbilical vein with surrounding enhancement (s/o thrombus with early abscess formation)

d) CECT abdomen : axial - normal intrahepatic umiblical vein

e) Coronal reformat- same hypodense area(black arrow), green arrow shows site of breech in anterior abdominal wall.



a) Follow up ultrasound 15 days later showing disappearance of reddish swelling over supraumblical area. However pus started coming out of umbilicus.

b) USG (grey scale and colour) shows almost similar size of the lesion. Further follow up at 2 months was advised to see the resolution.

c) Follow up of child at 2 months shows complete resolution of radish swelling and no pus from umbilicus

d) 2 months USG shows no residual thrombus/abscess at the previous site.

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CASE REPORT

Periductal Stromal Sarcoma of Breast: Case Report of a Rare Entity

Prachi Gupta*, Arpita Jindal, Aditi Jain***

ABSTRACT

Primary soft tissue sarcomas of the breast constitute less than 5% of all soft tissue sarcomas and less than 1% of malignant breast cancers.

Herein, we report a case of 50-yr-old female, who presented with right sided breast mass and was diagnosed as high grade periductal sarcoma of breast.

INTRODUCTION

Primary breast sarcoma is a rare entity and occurs in less than 1% of women with breast malignancy, first described in 1887[1]. Periductal stromal sarcoma (PSS) is an extremely rare neoplasm arising in the connective tissue of the breast, especially from the periductal stroma[2].

PSS is a distinct low grade breast sarcoma with no clinical or radiological specificity. It has a biphasic morphology with benign ductal elements and a sarcomatous stroma lacking phyllodes tumor architecture. In contrast to fibroadenomas and the phyllodes tumor, which appear to originate from the intralobular stroma, the distribution of the proliferation in PSS suggests an origin in the periductal or perilobular stroma. Similar to phyllodes tumors, PSS has a tendency for local recurrence when incompletely excised, and a potential to develop specific soft tissue sarcomas, as well as metastasis[3]. The therapeutic management of PSS is based on wide surgery with free margins, and adjuvant therapies are not required.

CASE REPORT

A 50-year-old woman, presented with a large right sided breast mass. HRCT thorax showed multiple large lobulated hypodense solid cystic masses in right breast. Fat planes with the pectoralis muscle were preserved and possibility of phylloides tumour was kept. Patient underwent a mastectomy.

Grossly the tumour comprised of 2 masses measuring 12x11x10cm and 9x8x5cm (Fig. 1).

External surface was smooth; cut surface was grey brown fleshy with areas of hemorrhage. Microscopic examination revealed spindle cells arranged in fascicles showing mild to moderate pleomorphism. Mitosis was brisk. Focal necrosis was seen. The epithelial element was difficult to find hence more tissue was processed whatever small ductal elements were seen, did not show any intracanalicular or leaf like pattern (Fig -2). Immunohistochemical analysis of the tumour cells showed diffuse positivity for vimentin, CD34 and CD10 (Fig-3) and were negative for pan CK, P63,CD117, Desmin and PR. Ki-67 index was 20%. A diagnosis of high grade periductal sarcoma was rendered.

DISCUSSION:

PSS was previously considered to be a variant of cystosarcoma with adipose metaplasia[4-6], however, currently, PSS was classified as a different entity by WHO in 2002 because of lack of phylloides architexture[7]. PSS occurs in pre and post menopausal women with a median of age of 55.3 years and the symptoms most commonly found are similar to other benign and malignant breast tumors and have no radiological specificity[8].

Histologically, PSS is a biphasic breast tumor with benign ductal elements and a sarcomatous stroma lacking phyllodes architecture. This tumor is characterized by a hypercellular proliferation of spindle cells forming cuffs around well-preserved ductal units with infiltration of the fat and surrounding tissue.

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Adjacent cuffs may coalesce to form large nodules and extend into lobules surrounding open tubules and ducts. This is in contrast to mammary stromal sarcomas, which displace normal mammary tissue, entrapping ducts and lobules peripherally[9].

The histological features of PSS were defined by the Armed Forces Institute of Pathology[10] as follows:

(a) a predominantly spindle-cell stromal proliferation of variable cellularity and atypia around open tubules and ducts devoid of a phyllodes pattern (b) one or, more often, multiple nodules separated by adipose tissue (c) stromal mitotic activity of ⩾3/10 high-power fields and (d) infiltration into surrounding mammary fibro adipose tissue.

PST is a tumor of intermediate behavior and resection with significant margin is considered sufficient for treatment. Adjuvant chemotherapy or radiotherapy is not recommended[10].

PSS may evolve into a phyllode tumor as well as a specific soft-tissue sarcoma. Also, PSS may occasionally exhibit intraepithelial changes ranging from ordinary hyperplasia to intra- ductal carcinoma[11].

The case is being reported for its rarity.

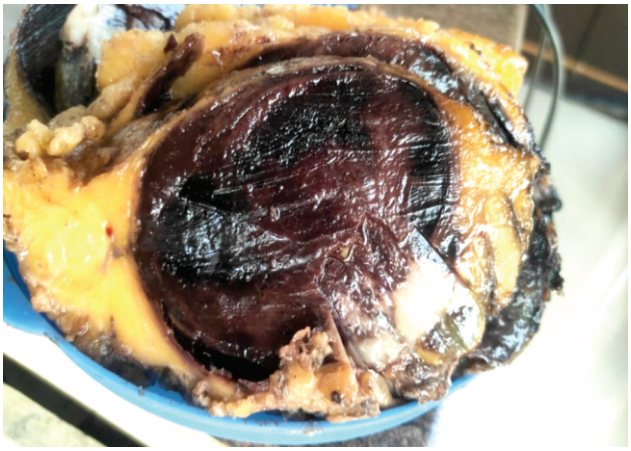


Figure 1: the tumor was grossly well circumscribed 12x11x10cm. cut surface –graybrown.

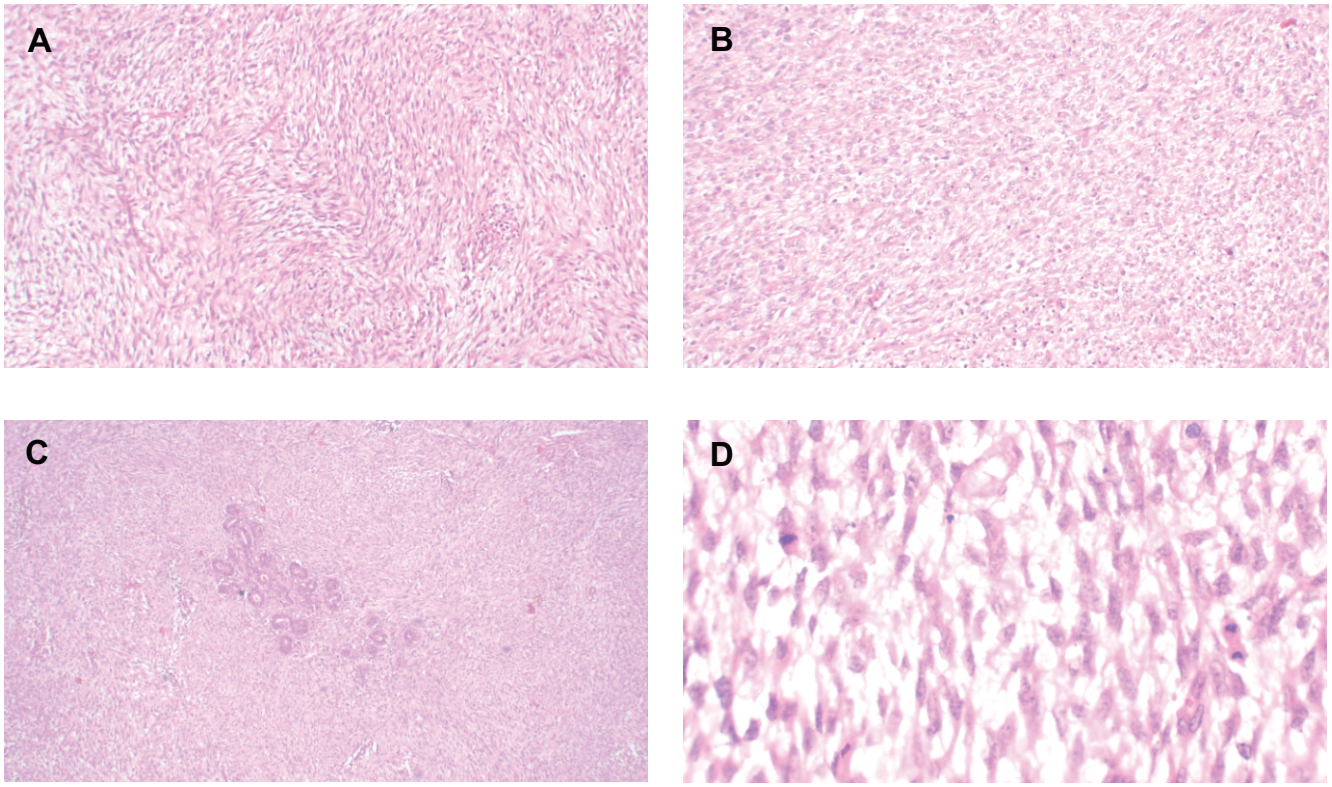
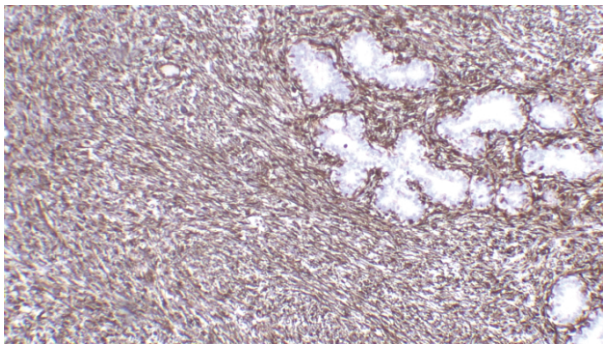
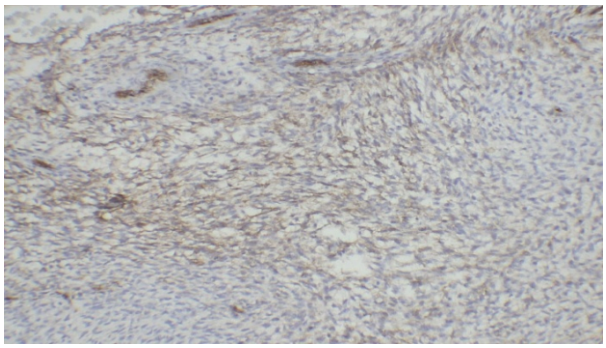


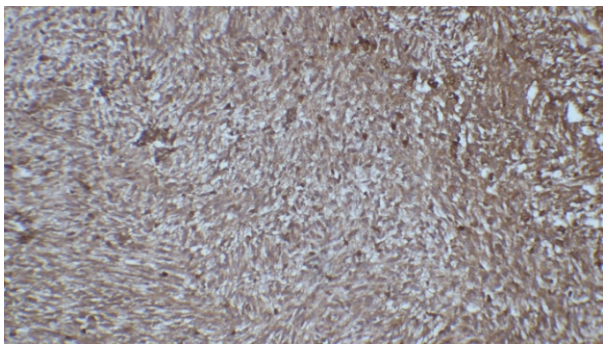
Figure 2:H and E Stain: A and B(low power)- spindle cells arranged in fascicles.
C (scanner view)-Preserved ductal elements.
D (High power)-stromal cells show moderate pleomorphism with mitosis



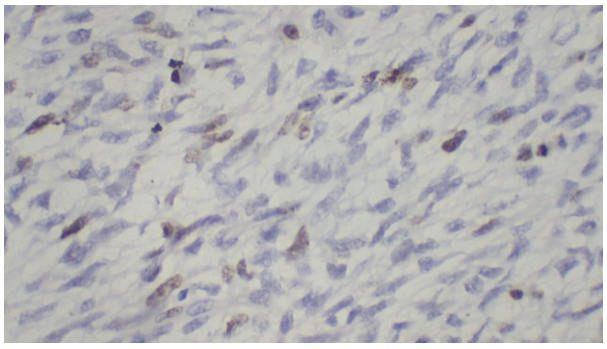
VIMENTIN



CD34



CD10



KI67

Figure 3 IHC - Tumour cells are positive for Vimentin, CD34 and CD10. Proliferative index Ki67is 20%

Acknowledgement: we Acknowledge Dr. Nidhi Chanchalani, Consultant Pathologist (precision path lab) for her inputs. We will be highly obliged.

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CASE REPORT

Complex Malformations of the Lower Extremities – A Case Report

Dhan Raj Bagri*, Shashi Kant Meena, Vishnu Pansari*****

ABSTRACT

Introduction: Malformations of the lower extremities like fibular hemimelias, congenital femoraldeficiencies, congenital femoral hypoplasia and tibial hemimelias are rare and complex limb defects. Deformity or a defect of the femur termed proximal femoral focal deficiency (PFFD) previously, is being referred as congenital femoral deficiency now. The etiology is unknown, appropriate classification and management are yet being framed; especially in neonates.

Case Report: We are reporting a case affected by Complex Congenital Femoral Deficiency; This report is unique as only one of the twins was affected, suggesting against genetic ordevelopmental hypothesis.

Conclusions: We are more interested in management issues like applying the classification, counseling of parents and multi disciplinary team-based approach. We recommend to develop an inter departmental protocol for managing such cases.

Key Word: proximal femoral focal deficiency, PFFD, Complex Congenital Femoral Deficiency

Malformations with deficiencies of the lower extremities are rare anomalies hypothesized to be the result of toxic influences during pregnancy between 4th to 12th week of gestation (when extremities are created and differentiated;nature, duration of action and aggressiveness of the noxeun known) or genetic origin; with incidence of approximately 18 in 100,000 newborns. The most common deficiencies are fibular hemimelias, followed by congenital femoral deficiencies and tibial hemimelias. Hemimelias are often associated with ray defects & deficient toes[1]. Isolated congenital pseudarthrosis of the tibia is extremely uncommon with diagnosis established in an infant who has just started walking. Congenital femoral hypoplasia is a rare but complex limb defect, ranging from simple shortening of the femur to complete femoral agenesis.It is main congenital defect in 4 conditions: a) proximal femoral focal deficiency (PFFD); b) femoral hypoplasia unusual facies syndrome (FHUFS); c) femur/fibula/ulnar hypoplasia (FFU); and d) limb/pelvis-hypoplasia/aplasia syndrome[2]. If there is a deformity or a defect of the femur, the proximal part is always affected making the term "proximal femoral focal deficiency" (PFFD) used to be common, these days a more general term "congenital femoral deficiency" (CFD) is used.

The unknown etiology, appropriate classification and appropriate management are the issues of importance. We are reporting a case affected by lower limb malformation; the other twin being normal suggests against genetic or developmental hypothesis. The management issues involved in such cases also need to be addressed.

CASE REPORT

A primipara mother aged 20 years gave birth to twin children after 2 yrs of married life through caesarean section. Indication for caesarean was malpresentation. The antenatal history is normal except for leaking per vaginum of 24 hours. Mothers HIV and VDRL were negative. She has no history of hypertension and was

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euthyroid. She was vaccinated for tetanus during pregnancy and antenatal checkups were done but only one antenatal ultrasound was done 2 days before delivery. There is no similar family history in maternal or paternal ancestors.

Twin one presented in emergency at life hour 7 with complaints of respiratory difficulty stabilized and admitted to NICU. On examination his heart rate was 148 per minute and respiratory rate was 66/m.SpO2 was 86% without oxygen and 96%with oxygen. The baby improved within 24 hours and a diagnosis of transient tachypnoea of newborn was labeled. Other systemic examinations were unremarkable. Head circumference was 30 cm and length was 41 cm with upper segment 25 cm and lower segment 16 cm. Right thigh was thick, plump and shortened (Figure 1) and on x-ray right femur was not visualized and the hip and knee joints were malformed (Figure 2).

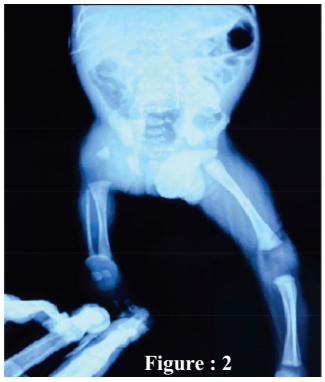

Figure 1: Malformed Right Lower Limb
Figure 2: Right Hip & Knee joint Malformation

Complete blood counts of the baby were normal with hemoglobin 19.2 gm/dl, hematocrit 56.3%, Total leucocyte counts 12.2 with normal differentials, MCV 110.6, RDW 18.8 and CRP negative. Serum urea was 13 mg/dl and creatinine was 1.02mg/dl. Serum electrolytes and calcium were normal and blood culture was sterile. USG abdomen, USG brain, and 2D-ECHO were normal.

MRI pelvis and right thigh done for detailed evaluation revealed dysplastic right acetabular cavity. Right femur not visualized. Tibia and fibula showing pseudo articulation with acetabular cavity with posterosuperior dislocation of head of tibia. Marked wasting of muscles noted around right hip joint and thigh. Right knee joint was also malformed and the upper margins of tibia and fibula were dysplastic (Figure-3). Left hip joint, left femur and left leg bones were normal.

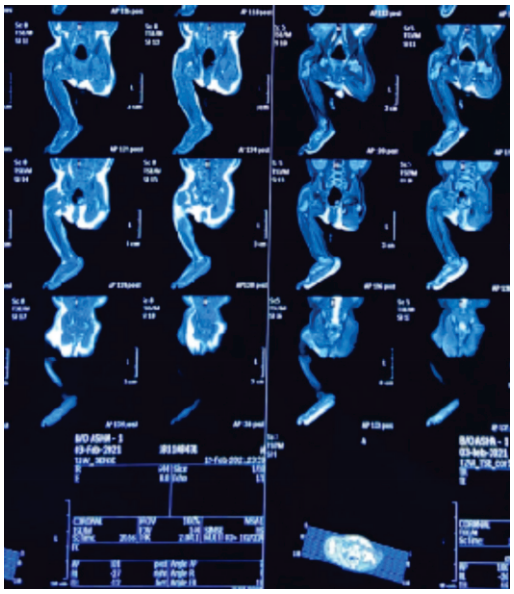

Figure 3: MRI pelvis and bilateral lower limbs

Twin 2 – had weight 1.3 kgs. His blood sugar was 69 mg/dl and SpO2 was 98 %. His CRT was normal and general physical examination and systemic examinations were unremarkable except for hypothermia. The other twin didn't have any congenital malformation and his x rays werenormal. His hemoglobin was 14.5 gm /dl with hematocrit 43.5%. TLC was 7000 with normal differentials and CRP was negative. MCV was 115.7 and RDW 18.1. S urea, creatinine and electrolytes were normal. Blood group of both twins was AB positive.

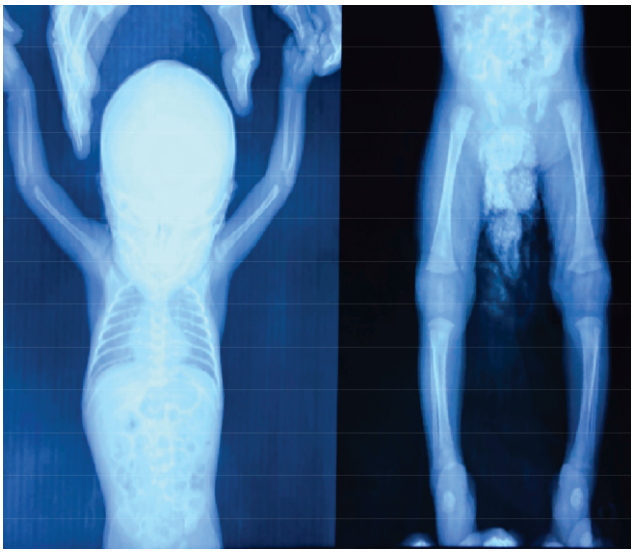

Figure 4: Twin secondInfantogram

DISCUSSION

In congenital femoral defects,the clinical examination should be careful and directed towards detecting associated abnormalities. Cleft palate, congenital heart defects, vertebral abnormalities, microcephaly were also cited in association with PFFD, even in up to 70% of the cases[2-4]. Absence of craniofacial abnormalities differentiates PFFD from FHUFS[5]. We are reporting dysplastic right acetabular cavity, upper ends of tibia and fibula with congenital absence of femur. Craniofacial configuration of both the twins was normal in our case. Proximal femoral focal deficiency or postaxial femoral dysplasia, a very rare defect was described first time by Kalamchi[6]; noticed at birth, occurring in 1/50.000-1/200.000 live births[2, 6]. The short, deformed, and dys-functional femur is characteristic of this condition[7]. In 15% of the cases, PFFD occurs bilaterally but without gender or familial predilection[3, 8]. Both the twins in our case are male.

In more than half of the cases, there is simultaneously a longitudinal defect of the fibula, often also a shortening of the tibia. The patella is often dysplastic and sometimes lateralized. The knee is usually in a valgus deformity. More rarely, the opposite side or one of the upper extremities is also affected. The historical classification by Aitken[4] is followed later by a more comprehensive classification of Pappas[5], and a modern classification proposed by Paley, associated with the term "congenital femoral deficiency"[9,10]. In the early stages, the non-ossified structures can be detected on ultrasound, by MRI or arthrography. A short femur may need to be evaluated thoroughly in order to exclude a series of conditions that may evolve with short femur: skeletal dysplasia (achondroplasia, hypo-chondroplasia, kyphomelic dysplasia, camptomelic dysplasia, tanatophoric dysplasia, achondrogenesis, Spryntzen syndrome, etc.), aneuploidies (as Down syndrome or monosomy X, Turner syndrome), metabolic syndromes (osteogenesis imperfecta), intrauterine fractures, caudal regression syndrome[11].

Prenatal diagnosis is important -Femoral length is routinely measured during fetal biometry starting the second trimester[2]. Prenatally, a short femur is defined as a femur length less than the 5th percentile for the gestational age or under 2 standard deviations for the gestational age on ultrasound[12]. If a short femur length is identified prenatally, all the long bones must be measured and evaluated for length disproportions and discrepancies must be searched[13]. A ratio less than 1 between the femoral length and the rest of the lower limb may suggest a skeletal dysplasia[13]. Correct evaluation of the gestational age is mandatory in order to avoid false positive results[12]. Fetal limbs can be seen on fetal ultrasound from the 10th week, the skeleton and the hands and legs can be evaluated from the 13-14th week of gestation[13]. In suspected cases, the fetal ultrasound must be followed by other tests, as amniocentesis, etc. in order to frame defect and exclude other anomalies (as chromosomopathies)[13]. We recommend regular fetal biometry during antenatal visits. Also, a short femur, is diagnosed prenatally may have to be distinguished from a naturally short femur in intrauterine growth restriction associated with utero-placental insufficiency, situation in which the femur length must be evaluated in correlation to limb length[14]. Severe intrauterine restriction associated with short femur must be distinguished from Russell-Silver syndrome.

Surgical correction of the short femur aims obtaining stability, ambulation, optimal functioning, and better cosmetic appearance[3,8]. Uncorrected, femoral hypoplasia leads to increased energetic consumption during walking, scoliosis and secondary pain, stress fractures, and unaesthetic appearance and walking[2]. Various treatment options are available, including shoe elevation, orthotic or prosthetic devices, realignment osteotomy, arthrodesis, rotationplasty, amputation and surgical leg lengthening. Complex deformities should be treated by a team of specialists such as orthopedic surgeons, orthotists, physiotherapists, psychologists and possibly other surgeons too.

CONCLUSION

As the etiology of limb malformations is unclear; this report will add to the body of available knowledge. This report is unique as only one twin was affected. We are more interested in management issues like applying the classification, counselling of parents and multidisciplinary team-based approach. We recommend to develop an interdepartmental protocol for managing such cases.

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